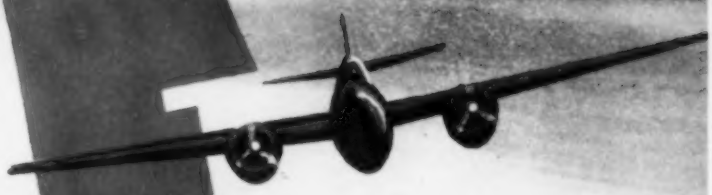
SOUTHERN

September, 1945 25 cents

Flight

Including MODERN AIRPORTS



GRUMMAN F7F

CHANCE VOUGHT F4U-4

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SEP 1945

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Hydromatics on Both

Two great names in naval aircraft—Grumman and Vought. Two great fighters—the Navy's newest and hottest—the F7F Grumman Tigercat and F4U-4 Vought Corsair.

Both are teamed up with another great name in aviation—Hamilton Standard Propellers.

HAMILTON STANDARD PROPELLERS

EAST HARTFORD, CONNECTICUT

ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

SEP 19 1945

of course we'll

"KEEP 'EM FLYING"

Air Power has clearly demonstrated its vital role in helping to terminate the greatest struggle that man has waged against man. » »

So, too, Air Power is Peace Power, for by the lessons learned through war's testing needs, there have accrued such accelerated developments of safety, comfort, and efficiency, that this mighty power is further strengthened to guard the rights of all. » »

Years of experience in creating the famous P-47 Thunderbolt to exacting specifications of the Army Air Forces, and engineering and development work in the constantly broadening channels of aircraft construction, have developed a highly skilled group of scientifically trained workers here at Republic. We will continue to build planes needed to police and maintain world peace, and in addition, shall apply the energies of our seasoned personnel to the building of a line of aircraft for the peace time markets. Republic Aviation Corporation, Farmingdale, L. I.

REPUBLIC AVIATION

CORPORATION

Makers of the Mighty Thunderbolt

MORSES'S TELEGRAPH • ONE MILLION HOURS AGO
COLUMBUS SAILED • FOUR MILLION HOURS AGO
LEIF ERICSSON • EIGHT MILLION HOURS AGO
CYCLONE 18 OPERATING TIME
TEN MILLION HOURS

Centuries of Power *behind the Constellation*

A year is only 8760 hours. The Wright Cyclone 18 has a total flight and test time of *ten million hours*. In hours, years or annual rings in a tree, that's eleven centuries of time.

In the war years, the Cyclone 18 has gone through a fast, grueling development program. No other engine has ever had to take such punishment — excess temperatures, overloads, overspeeding, lean mixtures and maintenance handicapped by supplies.

From that usage, however, came continuous refinement and design changes . . . improvements which paved the way for increases in performance not only of bombers, but of all types of planes powered by the Cyclone 18.

Thus, the Cyclone 18 built today for planes such as the Lockheed Constellation is the sum of this ten million hours of experience. The forced acceleration of war has produced an advanced engine, years ahead of its time, for all types of planes.

WRIGHT

AIRCRAFT ENGINES

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FIRST IN FLIGHT

Wright Aeronautical Corporation • Paterson, New Jersey, U.S.A.

Revving Up

SIX YEARS AGO: Pardon the reminiscing but exactly six years ago the first of this month we were in Cleveland for the National Air Races. Germany marched into Poland, England and France declared war. Walking across Fred Crawford's lawn (remember how the party at Fred's house was always a highlight of the Cleveland races?) we bumped into United Aircraft's Jack Horner, who greeted us with the news that the Nazis had just sunk the U. S. bound "Athenia" off the coast of Scotland. Ralph Carter was there and he opined that we'd soon be in the fight. Roscoe Turner didn't agree. Said Roscoe: "We ain't got nothing to fight with!" . . . Six years is a long time ago. A lot of water has passed under the bridge. We wonder where and when the next air races will be, and if such guys as Doolittle, Roscoe, Steve Wittman, "Bevo" Howard, the Henderson brothers, Al Williams, Pop and Mom Cleveland, Peg Rex, Jack Story, Barney Capehart and Swanee Taylor will be around, and if there'll ever be another one of those grand Thompson Products parties on Fred Crawford's lawn.

★ ★ ★

POWER FOR GLIDERS: If you want to convert Piper TG-8, Taylorcraft ST-100 or Aeronca G-3 gliders to powered aircraft, write to the Aircraft Engineering Division, Civil Aeronautics Administration, Washington 25, D. C., for copy of safety regulation release No. 188, which contains procedures for handling the certification of these gliders converted to powered aircraft.

★ ★ ★

NO CUTS AT HAGERSTOWN: Fairchild's Hagerstown, Maryland, plant will maintain employment at present levels or be increased slightly in the next few months, according to a recent announcement. Fairchild's Army contract for the C-82 Packet was not cancelled and steps are being taken to prepare the Packet for civilian production.

★ ★ ★

AIR PROGRESS: How air travel costs have been consistently reduced down through the years is impressively shown in a table prepared by United Air Lines coincident to its latest coast-to-coast fare reduction:

1926 (This fare applied in 80-mile-an-hour single-engine, open cockpit planes requiring 14 stops.)	$400.00
1929	259.50
1931	227.00
1931	220.00
1933	160.00
1934	149.95
1943	138.85
1945 (May 1)	124.75
1945 (Aug. 1)	119.10

★ ★ ★

STILL BIG: Although the V-J cutbacks in aircraft contracts are close to ten billions of dollars, there's not a chance for the aviation industry ever to slump back into a position anywhere near the prewar pee-wee stage. For

(Continued on page 24)

SOUTHERN Flight

Including MODERN AIRPORTS

Twelfth Year of Progress With Aviation

SEPTEMBER, 1945 VOL. XXIV, NO. 3

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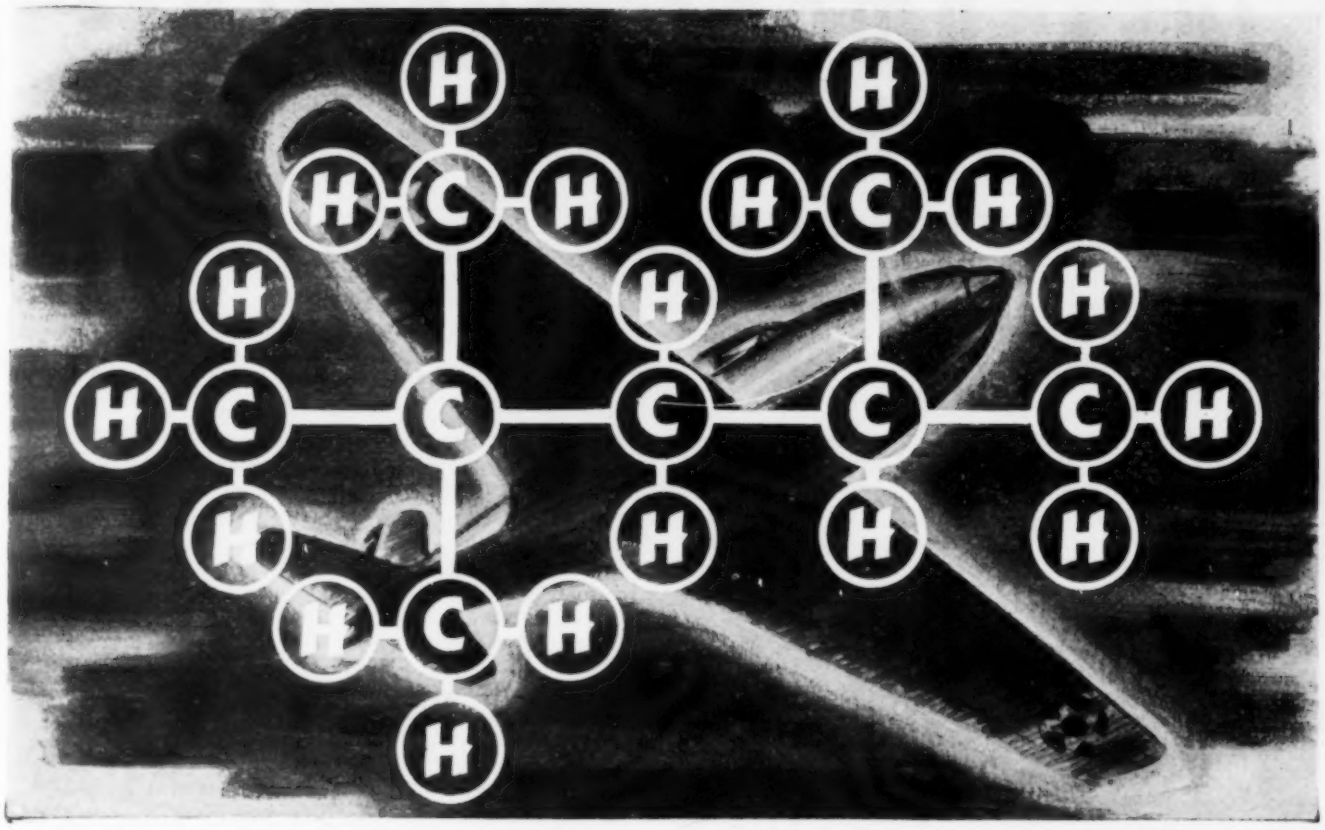

We don't split ATOMS . . . . but we do rearrange MOLECULES

One of the major miracles of this war has been the development of high-octane gasoline which gave our airmen mastery of the skies. The basic ingredients were the simple molecules of carbon and hydrogen, available to any scientist. With imagination and purpose these were put together by petroleum technologists, much as bricks are used in building, arranged and rearranged until magically there was evolved the super-fuel of this war — 100-octane gasoline.

Humble's Baytown Refinery provided the United Nations with more of this 100-octane gasoline than any other plant in the world. Since the establishment of the first commercial aviation alkylate plant at Baytown in 1938, the makers of Humble-Esso Aviation products have continued to blaze the trail in aviation progress, to anticipate the needs of designers with constantly improved fuels and lubricants. You will benefit from this continuing research in the finer Humble-Esso Aviation Products that will serve your post-war plane.

HUMBLE OIL & REFINING CO.

ESSO

Humble-Esso Aviation Products

Yesterday Humble-Esso Aviation Products served the vital demands of war; today they serve equally well the needs of peace.

JUST AMONG OURSELVES

Editorials and Comment

CONFLICT IN THE CAA

WHEN malfeasance in public office comes to light, the tax-paying public demands and usually gets quick action. Last month CAA Administrator Wright announced an Eastern regional office shakeup which resulted in formal charges of malfeasance, the resignation of two officials and the transfer of three other officials to new regional offices. Improper issuance of airmen certificates, acceptance of gratuities, laxity and discrimination in enforcement of civil air regulations were included in the charges. Although quite a few observers interpret this news as the first in a series of long overdue house-cleaning moves in the CAA field organization, we are inclined to believe otherwise. If there's to be a general house-cleaning, let them start in Washington.

We don't intend to minimize the seriousness of Mr. Wright's charges as lodged against the Eastern officials. We are confident that his evidence is solid and that justice should and will be meted out. But we do protest the broad interpretation a large number of people are placing on this one incident to the effect that a general shakeup in regional field offices is necessary and forthcoming.

When President Roosevelt destroyed by official decree the independence of Civil Aeronautics Authority as created by the Civil Aeronautics Act of 1938, and incorporated the Federal agency into the politically conscious Department of Commerce, he paved the way for all the difficulties that now beset our civil aviation officials, most of whom are anxious to do a good job but are hamstrung and hogtied by an impractical and unworkable organization. Little wonder there's friction between the CAA and CAB and so many divergent schools of thought within the Federal aviation framework. It's logical to believe that the basic organizational weaknesses are largely responsible for the troubles out in the field. Little wonder that so many of the technically trained personnel both in Washington and in the field are dissatisfied and looking around for other jobs.

It is remarkable that the whole structure hasn't collapsed. CAA and CAB personnel have been so busy during the past five years, however, they've hardly had time to pay much attention to internal conditions. The strain and stress of wartime operations demanded that they remain at their posts. But with the return to peace, either the independence of the Federal agency must be restored or we can expect to exchange most of the valuable career men for a flock of incompetent political opportunists and "empire builders."

The troubles that have developed in the First CAA Region are symptoms of the disease and not the disease itself. They can be traced to the lack of co-ordination between the Washington offices and the field organization. And this poor state of co-ordination stems directly from the basic weaknesses of an organization created by an executive order which in turn circumvented an act of Congress.

As far as civil aviation in the United States is concerned, it's high time Congress reassumes its constitutional prerogatives and re-establishes an independent Federal aviation authority, forever free from the political bondage of the Commerce Department.

☆ ☆ ☆

PREMATURE REGULATIONS

A REPORT to the Civil Aeronautics Board last month by examiners William J. Madden and Curtis C. Henderson on the broad subject of non-scheduled, charter air services is particularly significant and worthy of wide attention because of the examiners' conviction that charter operations offer the eventual threat of competition to scheduled airlines, and for that reason should be required to hold air carrier operating certificates.

Non-scheduled charter operations are now exempted by the CAB from all economic regulation. The examiners recommended, in effect, that the *laissez-faire* policy toward fixed-base air carriers come to an end. Part 42 of the Civil Air Regulations, now up for revision, embodies this requirement that charter operators hold certificates.

The examiners recommend the maximum number of charter trips by any one operator between certificated airline points be limited to ten in any one month. To prohibit pooling of frequencies by two or more non-scheduled operators, operators would be required to file copies of all contemplated agreements with the CAB as specified under section 412 of the Civil Aeronautics Act.

The examiners admit that charter operations are relatively small and probably won't constitute any economic threat to the scheduled airlines any time in the near future. They also admit that there is no data available with which to estimate the extent of non-scheduled traffic. Herein lies the basic weakness of the report. The examiners seek economic regulation of the non-scheduled operators, not because charter services are now or will be any time soon a source of unfair competition to certificated carriers, not because charter business has reached such proportions that stricter regulations are necessary, but rather because they *think* the non-certificated carriers *might* develop into a healthy commercial enterprise sometime in the future.

The examiners have done a good job of getting the cart before the horse. It seems to us the Civil Aeronautics Board has the facilities to gather dependable operating statistics covering charter operations. With adequate facts and figures the growth and development of this phase of aviation can be studied and weighed. Now that the war is over and all of us must push the full development of civil aviation in every respect, why saddle any kind of activity with speculative restrictive measures? The report certainly is concrete evidence that government agencies are still suffering from regulationitis.

The tone of the report is apologetic. But bitter past experience proves that once even a small measure of regulation is imposed, once the regulators get their foot in the door, there's no stopping.

What non-scheduled aviation needs right now is less regulation and more attention and energy of the government agencies devoted to national programs such as airports, airmarking and air education in order to stimulate and

worth waiting for NEWS

No. 9 WHAT PRICE SPEED ★ THE NINTH OF A SERIES OF INFORMATIVE ADVERTISEMENTS ABOUT THE NEW CULVER. PUBLISHED BY THE CULVER AIRCRAFT CORPORATION, WICHITA 1, KANSAS

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PHOTO BY ROBERT YARNALL RICHIE

WHAT PRICE SPEED

IN THE old prewar Culver, with the aerodynamic information which was then at hand, it was necessary that drag be kept to an absolute minimum if the ship was to reach the performance figures set out in the original design specifications of 120 miles per hour cruising speed with a 75 horsepower engine. How well Culver succeeded in bringing to the light plane field a ship which definitely met its advertised guaranteed speed of 120 miles per hour is past history, but the jokes about its small cabin, necessitated by the need to minimize drag, still linger on.

One of the favorite stories at hangar talk sessions is that Culver furnished a shoe horn as standard equipment with each airplane. One Culver enthusiast from Texas remarked that "You don't get into the old Culver, you merely strap it on your back and go." Culver is happy to announce that they have gotten rid of the "strap it on your back" but have kept the "Go."

In the designing of four distinct new airplanes for the Army and Navy through the war period, much has been learned about aerodynamics. Culver can now maintain the same high standard of performance – yes, even better it to a slight degree – and still provide ample room and comfort in the cockpit. The point of entrance will be different. The seats will be individually adjustable and will be so constructed as to provide maximum comfort even on long trips. The cabin will be air tight so that engine and propeller noises do not tire you at the end of a day's flying. The air tight cabin will keep out unwelcome cold breezes in winter, with an efficient heater providing warmth and a blower giving ventilation in summer. Ample head room will be provided for even the tallest pilot, and the interior trim will make the New Culver a truly deluxe airplane.

Add to the comfort of the New Culver the increased payload, the vastly increased cruising range, electrical retractable tricycle gear, soundly engineered construction, the low-wing plastic bonded wood constructed monoplane incorporating the three S's of aviation, safety, simplicity (simplified control), and speed, with Culver's built-in performance and economy of operation, plus Culver's one-stop service station policy, and you have the New Culver – our contribution to the postwar flying age which is definitely Worth Waiting For!

FOR THE LATEST INFORMATION WRITE CULVER AIRCRAFT CORP., DEPT. SFI, WICHITA 1, KANSAS

promote natural growth in every branch of aviation—scheduled airlines, non-scheduled commercial services and private flying. The Civil Aeronautics Act provides for such stimulation and promotion of aeronautics but far too many of our appointed officials charged with that responsibility seem to have forgotten those constructive portions of the Act and spend all their time and the taxpayers' money thinking up new regulations.

Non-scheduled aviation interests might do well to get a copy of the proposed revisions to Part 42 of the Civil Air Regulations and have something to say about the regulations therein before the CAB takes action.

☆ ☆ ☆

TOMORROW'S AIR POWER

GENERAL H. H. Arnold's first press conference after the capitulation of Japan failed to reveal specific information regarding the size of basic structure of our postwar air force. Admitting that guided missiles and atomic bombing force a complete reorganization of our military thinking, the General indicated the backbone of our AAF, at least for the next few years, would be found in the B-29 and even larger bombers of longer range. He warned that if this nation fails to keep ahead in technological development, we need not bother to train any force or make plans for emergency expansion; for we will be totally defeated before expansion could take place. Our air force must be backed up by research, an expandable nucleus of industry and the global bases from which to use our weapons.

No one has defined or explained just what constitutes "an expandable nucleus of industry." A few weeks ago the American aviation industry was the largest industry in the world. Today, it isn't. In the matter of a few hours it has dropped back into a position much closer to its old prewar self —a highly specialized, compact and relatively small element of our national economy.

The day we have all wished for finally has come. But the rose of peace has thorns. The industry wants to know where it's going. The experts agree that a healthy aviation industry is a keystone in national security, yet no one seems to come forth with a plan. In spite of repeated warnings and pleadings from industry, there is no master postwar blueprint. Japan's surrender caught Washington with its pants down. Washington consistently refused to permit the aircraft industry to engage in a partial reconversion and begin on commercial orders until the last shot was fired. As a result, the industry is as unprepared for peace as it was for war.

Wholesale contract cancellations, measured in billions of dollars, were expected and welcomed with a sigh of relief. The industry does not fear temporary dislocation during the period of reconversion. The danger lies in the indecision about the future, the lack of overall planning regarding the fundamental issue of preserving the strength we paid for with blood and billions of dollars since the dark days of 1941 and 1942 when the cry from the battlefront was always "too little, too late."

If we are to have an "expandable nucleus of industry," if we are to preserve a safe measure of our productive capacity and all its vital elements of tools, floor space, experienced labor, management, engineering and research personnel and facilities, when in the name of heaven will officialdom let it be known? Or will our costly, hard-earned resources be dissipated to such an extent that the industry will lapse back into its prewar impotency with inadequate financial resources, a paucity of military orders and a pillar-to-post existence brought about through lack of a national air policy.

There is not one substantial clew with which we might estimate the size or character of our postwar air force. There is no specific information regarding peacetime military aircraft procurement policy. Surely a recognition of past history will not permit the industry to make the gross and erroneous assumption that America has learned its lesson and will never again be caught short.

In spite of air power's decisive role in World War II, the intelligent and experienced exponents of air power can not write their own ticket. That ticket will be written by Congress and Congress is so bogged down with domestic and international problems, our national defense organism might find itself to be one of the last subjects on the agenda. Where, a few months ago, there were wild acclaims for air power, today there's a strange, mysterious silence. There is not throughout the land today any great clamor or vociferous demand for a modern, mobile, adequate global air force.

The so-called "brave new world" is in a mighty sorry mess after six years of carnage and destruction. Rehabilitation takes time. People as well as places will have to be rehabilitated; and no matter how sincere our efforts or how lofty our hopes might be for world security, there's plenty of thin ice ahead. World security as well as our national defense and economy demands the maintenance of strong American air power, the elements of which include factories and tools, labor and management, inventive genius and research, bases, communications and organization.

The first step toward maintenance of this air power for peace is the immediate creation of a master plan and program which will preserve in large measure our war-nurtured technological resources as a productive, going operation, capable of striking any point on the globe in the matter of hours instead of days or months or years. As "Hap" Arnold pointed out in his first postwar interview, there won't be any days of grace next time.

☆ ☆ ☆

WHAT'S THE VERDICT?

NOW that the war is over, all civil aviation interests either must get together on some important common problems or revert to the small potatoes of the prewar years. Specifically, we refer to such major issues as the national airport and airpark program; universal air education; expansion of scheduled and especially "feeder" air services; closer co-ordination and a meeting of the minds between local, state and federal officials and a sensible delineation of the specific duties and responsibilities of each level of government; immediate abandonment of the ostrich head-in-sand attitude toward the ridiculously high rate of non-scheduled accidents and the promulgation of a hard-hitting, national air safety campaign; continued revision of the Civil Air Regulations and an accelerated attack on official red tape; a consumer movement to force an improvement in the code of ethics of airport operations and a general clean-up of aviation merchants' physical properties in order to win and hold new customers; an airmarking campaign closely associated with airport development and the extension of navigational aids to airmen.

From now on out we're going to depend more and more on the patronage of the public and less upon government dollars. Whether aviation can "take it" during the years of peace ahead is yet to be seen.

GLIDAIR Finishes Help PCA Set New Maintenance Record

THE high standards of speed and efficiency achieved by Pennsylvania Central Airlines' maintenance engineers in spite of wartime difficulties have been little short of miraculous. For example they reduced the accepted industry time for complete reconversion of a plane from 30 days to 15 days—exactly one-half.

Naturally, Glidden is proud that Glidair finishes have been selected by PCA and are playing a part in the achievement of unprecedented maintenance standards. This is true, not only with PCA but with many other leading airlines.

TIME-TESTED

There is a Glidair finish for every aircraft need, including paints and dopes for planes, automotive ground equipment, hangars, buildings, floors and shop equipment. Each shipment is laboratory-tested on government panels. And the superior covering quality of Glidair finishes makes for lower cost —as much as *50% lower at the gun!*

For full details on the Glidair line or free counsel with a Glidden aircraft paint engineer—get in touch with your nearest Glidair distributor listed below or write direct to Glidden Headquarters.

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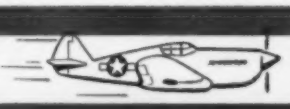


Made by **GLIDDEN** • *Pacemaker in Paints*

The Birdmen's Perch

By *Major Al Williams,* ALIAS, "TATTERED WING TIPS,"
Gulf Aviation Products Manager, Gulf Bldg., Pittsburgh 30, Pa.

GUESS WHAT THEY DID NOW!

A bunch of engineers in charge of getting-rid-of-every-darned-unnecessary-ounce on a certain plane were sitting around brooding, one day.

Of course, anybody *but* an engineer could see that it was downright impossible to remove a solitary remaining gadget or to make a single fitting or part any lighter than it was. But no one dared to tell the engineers because it might have ruined a whole day's brooding.

So they sat there with long faces and went over the weight tables again and again.

Pilot—183 lbs. (he'd flatly refused to reduce) . . . radio equipment—so many lbs. . . . landing gear—so many lbs. . . . tires—so many lbs., plus 180 lbs. of air to inflate them . . .

"—hey, maybe we ought to fill 'em with helium instead of air, tee hee."

Well they did it! And knocked 154 lbs. off the gross weight!

How about that?

INSTRUMENT COURSE, Cont.

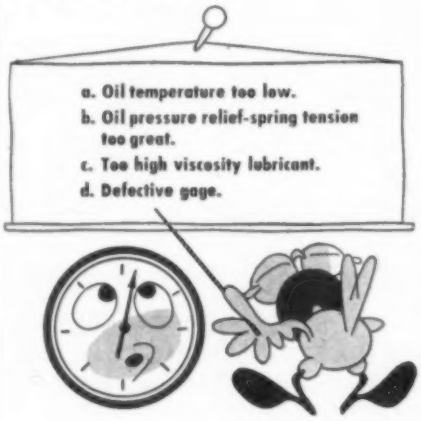
As we were saying last month, those oil instruments of yours are critical gadgets.

We can tell you all about what *we* do to Gulfpride Oil. We can tell you how *we* begin with the very finest crudes, and subject them to the most efficient refining methods we know of. We can tell you that after they've been refined *we* give them an extra refining treatment called the "Alchlor Process."

And *we* can tell you that last step gets more *extra* carbon makers and sludge formers out of Gulfpride than you could shake a piston at.

But while we can tell you what *we* do to Gulfpride, *we can't tell you what your engine does to it!* That's up to your oil instruments.

Your oil pressure gage, for instance, is probably indicating one of the following when it reads too high:


a. Oil temperature too low.
b. Oil pressure relief-spring tension too great.
c. Too high viscosity lubricant.
d. Defective gage.

Next month, we'll cover indications of the oil *temperature* gage. Meanwhile, you'll have enough time to treat your engine to fresh Gulfpride.

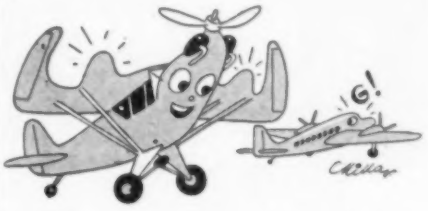
LITTLE KNOWN FACTS DEPT.

Here's the 3rd Little Known Facts About Well Known Planes we've run from George Clay, of Dallas, Texas!

That means that with 2 more Facts—fascinating enough to meet our lofty standards, *and accompanied with proof*—Perch Pilot George Clay will become a Senior Perch Pilot.

What's more, he'll be the first Senior Perch Pilot to be commissioned!

Unless someone else beats him to it, that is. Here's his 3rd accepted Little Known Fact:



The most popular light plane is stressed for more "G's"—pound for pound—than any commercial airliner!

A commission is on the way to H. R. Kensit, AMMH 1/c, Hdqtrs. Sqdn. 9-2, c/o Fleet Post Office, New York, N. Y., for:

Just the wiring in a PV-1 is more expensive than most PT's!

Lt. W. M. Bullock, LAAF, Laredo, Texas, rates a commission with:

It requires approximately 6 horsepower to retract the landing gear of the B-29's!

If you haven't got a Perch Pilot's commission yet, send us a Little Known Fact like those above.

If you have been commissioned, send 4 more Facts and we'll promote you to Senior Perch Pilot!

The address is up on top of the page, there.

FLUTTER SAYS

A pilot arrived in Moline
Before he had left where he'd been.
Interviewed, he admitted
He couldn't have did it
If he hadn't used Gulf Gasoline.

Gulf Oil Corporation and Gulf Refining Company...makers of

GULF **GULF AVIATION PRODUCTS**

OIL IS AMMUNITION—USE IT WISELY

This Flying Story Applies To a Lot of People

You know, when you buy an Aeronca, you buy more than a plane. Every man who sells Aeronca planes is selected not only for his experience, but ability and character, too. He'll be located wherever people want to fly, ready to supply complete service all the time.

There'll be airstrips and airports all over the country, wherever you want to go. Aeronca's been pioneering these facilities. They've always taken the lead ever since they produced the first light plane 17 years ago.

• • •

The word's been getting around about the planes themselves, too—the last word in engineering, easy to buy, easy to fly. Airminded people will look instinctively for the name "Aeronca" on a dealer's hangar. For further information,

send 10¢ to Aeronca Aircraft Corp., Dept. SF-9, Middletown, Ohio, for a copy of "Aeronca—The Plane You'll Want to Fly."

• • •

(Export Agency—Aviquipo, Inc., 25 Beaver St., New York 4, N. Y.)

AMERICA'S PERSONAL PLANE

AERONCA

has an important message for air-minded people

PATTERN FOR TOMORROW'S AIRLINES. Along with good planes and pilots, the new regional and local airlines starting in business will need the best and most complete instrument equipment they can buy. Instruments are the backbone of safe operation . . . the kind of operation our pioneer airlines have taught the nation to expect in scheduled air transportation. Instruments also have everything to do with regularity of service, and this regularity of service—around the clock, around the calendar—means not only service to the public but the fullest and most economical use of the new air carrier's investment in equipment. Tomorrow's airlines will find Kollsman accuracy and dependability important aids to the safety, regularity and economy of their operations.

KOLLSMAN AIRCRAFT INSTRUMENTS

PRODUCT OF

SQUARE D COMPANY

ELMHURST, NEW YORK • GLENDALE, CALIFORNIA

TRAPPED BRITISH BURMA UNITS SAVED FROM SURRENDER BY

Curtiss Commando Transports

THE high tide of the Jap Burma invasion found many British ground forces surrounded by jungles and Japs. Roads blocked... bridges down... supplies exhausted, they were completely cut off.

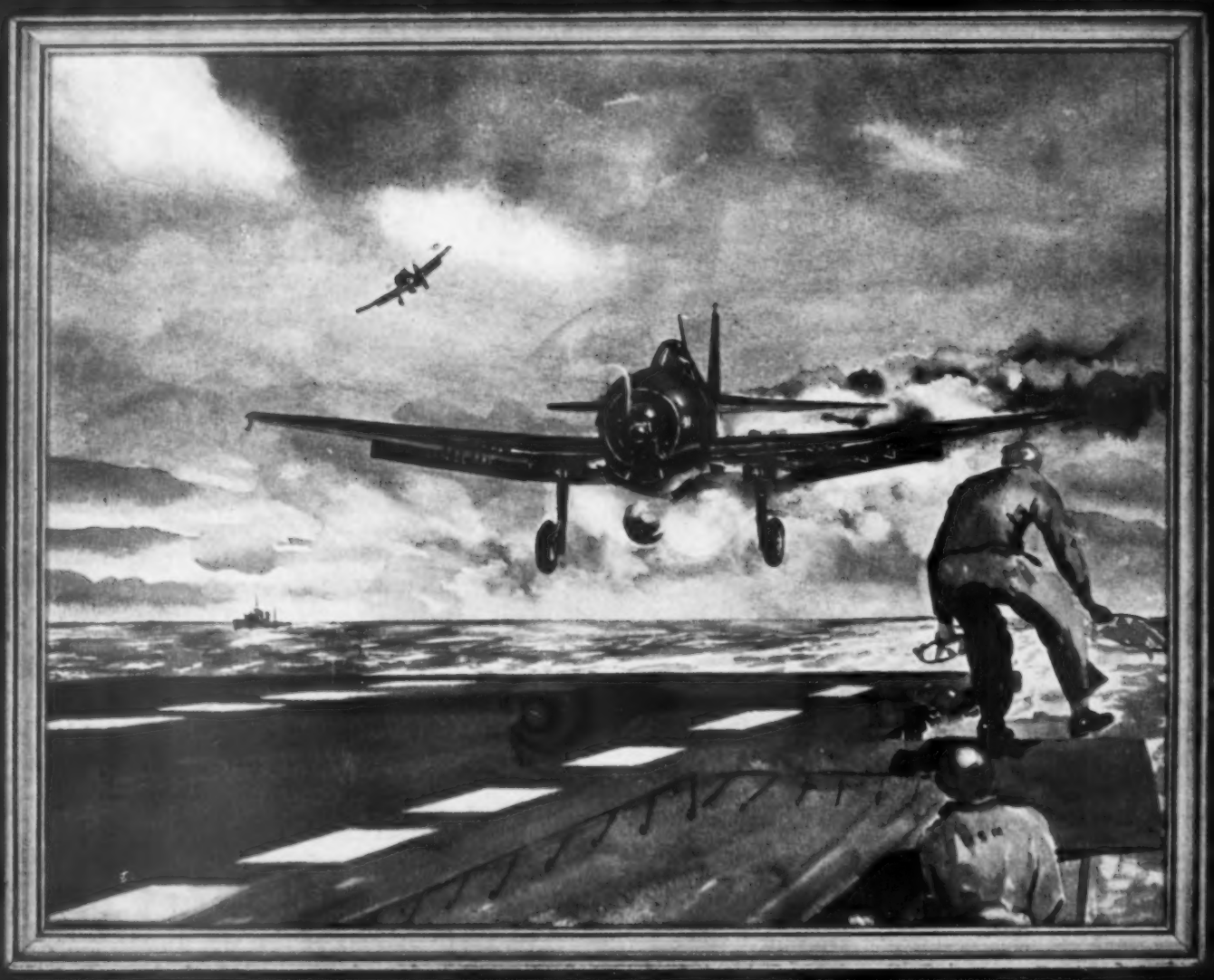
There was one lifeline neither nature nor the Nips could cut —Combat Cargo Command pilots flying Curtiss Commando transports.

These world's largest, fastest twin-engined carriers roared in low over isolated clearings, cascaded burlap-wrapped bundles of food, medicine and ammunition to the beleaguered men below—kept them fighting when all other means failed —kept them alive to fight free of the enemy.

All over the world, all through the war, Curtiss Commandos have flown under every condition, delivered anything needed anywhere in the cause of victory.

Once that full victory is attained, watch these famed air carriers make equally creditable contributions to peacetime commerce. Their speed, dependability and economy will earn them front rank in the fields of air travel and air trade.

Printed in U.S.A.



Rugged Construction of the U. S. Navy's Grumman Hellcat Helped Bring This Pilot Back to Fight Again

Grumman

AIRCRAFT ENGINEERING CORPORATION, Bethpage, L. I., N. Y.

Making a 40-ton shock "DISAPPEAR"!

When a Skymaster hits the runway, the tremendous landing energy of this huge plane quickly *"disappears"*. It's not an act of magic, but the shock-absorbing ability of Aerol landing gear that does the trick! . . . The remarkable stamina and efficiency of Aerols, which protect plane, crew, and cargo from landing shock, account for their universal acceptance for major types of aircraft. ◆ ◆ Our products, serving many industrial fields, are mentioned below. Whatever your needs, Cleveland Pneumatic engineers offer you the benefit of over 50 years manufacturing experience.

THE CLEVELAND PNEUMATIC TOOL CO., Cleveland 5, Ohio

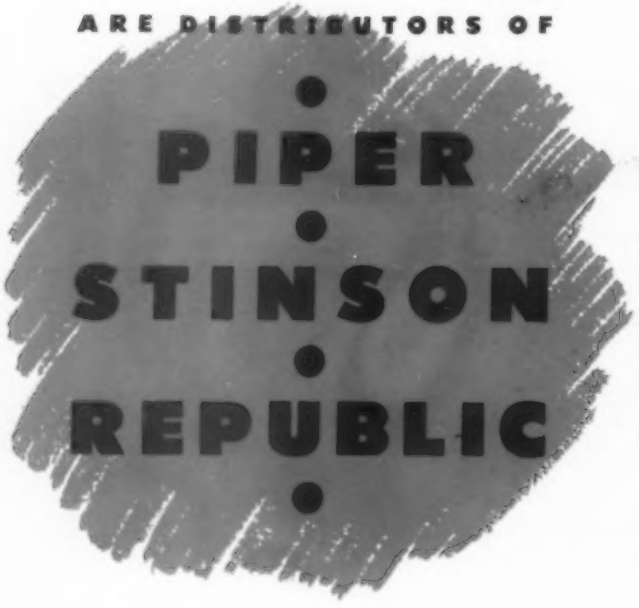
CLEVELAND PNEUMATIC

AIRCRAFT SALES CO.

Always identified

WITH THE *LEADERS*

ARE DISTRIBUTORS OF



Right now, we are doing everything possible to secure early delivery of these fine airplanes . . . in the meantime, we are establishing carefully selected dealers throughout Texas to assure you, as a private plane owner the first time in aviation history, the same type of convenient service you have learned to expect from your automobile dealer—service, that will be your guarantee of MORE flying, with lowest possible maintenance.

To supplement your dealers stocks of parts, he will be assured of fast delivery from our complete stocks of ALL parts, radios, accessories and flying equipment.

AIRCRAFT SALES CO.

MEACHAM FIELD FORT WORTH, TEXAS

AIR REPORT

☆ SIGNIFICANT TRENDS IN THE NEWS

General Motors Makes Its Bid

Those who have wondered when the automobile manufacturers will enter the lightplane field have been given a hint by General Motors, which has finally announced development, after eight years of studies, of its 200-hp. two-cycle aircraft engine. Details of the radical new power plant aren't news—unofficial reports covering it have appeared before in SOUTHERN FLIGHT. The news is a statement by C. E. Wilson, GM president, which accompanied the first announcement of the engine. "Market potential and production studies are now being conducted by the Buick Motor Division," he said. Until now the lightplane market has been too small to interest auto producers accustomed to scheduling production in hundreds of thousands of units. It may yet be too early for the major car builders, but GM's engine is the opening wedge. Flight-tested for six years, the four-cylinder radial has no valves. Fuel consumption is about fifteen gallons hourly at cruising power, but oil consumption of one quart per six hours is extremely low. Of thirty-five inches diameter, the engine's piston displacement is only 250 cubic inches (the size of an auto engine) and the dry weight (it is liquid cooled) is only 275 pounds. Recent GM experiments with the engine have been related to military robot plane developments.

★ ★ ★

New Kind of Air Force

Immediate cancellations of airplane orders following V-J Day halted production lines and doomed to utter scrap thousands of brand-new airplanes and engines. Production which topped 9,000 planes per month at the peak of the war program tumbled to a level which will fall to about 200 planes per month at the end of the year. But the military services are continuing important developmental projects involving experimental models. These are the planes with which the Air Forces will launch Phase One of peacetime operations, and they will result in a new kind of military air organization. Censorship has been relaxed, but the Army and Navy have not yet detailed their experimental models. They include Consolidated Vultee's B-36, a six-engine very heavy bomber which will dwarf the B-29; its transport counterpart, the XC-99; Northrop's huge XB-35, a flying wing type; North American's heavy XB-45; a heavy bomber by Republic; Martin's heavy XB-48; at least one jet-propelled medium bomber; new Curtiss and Douglas attack bombers; two radically-designed Northrop fighters; Consolidated Vultee's P-81; North American's P-82 and P-86; Republic's XP-72 and P-84; Bell's P-83; new torpedo bombers by Douglas, Martin and Consolidated; Ryan's Navy fighter, now being seen on ferry flights, which has a jet unit in addition to its orthodox engine and propeller; Grumman's new Navy fighter which is smaller but much hotter than the familiar Hellcat, and others. Incidentally, Culver's trim little red-painted PQ target planes aren't the only full-scale type being flown. A twin-engine target plane has been tested. An indication as to the impact of new models occurred some time ago, when a Lockheed P-80 was pitted against the best P-38, P-47 and P-51 models available in a demonstration. The orthodox fighters were posted in aerial alert, their pilots forewarned that the jet would intercept them in an effort to "shoot" them down with camera guns. The P-80 did exactly that, without once being seriously threatened. German jets had scored similar "incredible" victories over U. S. photo reconnaissance planes. Observers who were on the spot say Germany probably could have halted U. S. strategic bombing if it

Bendix Flightweight Radio

FLY FARTHER

FLY OFTENER

. . . will open new vistas in private flying

Manufacturers, dealers and owners of private planes have looked forward for years to a genuinely reliable airplane radio, small enough to fit handily into any panel . . . light enough to add only ounces to flying weight . . . and low enough in price to match the ideal of economical flying for everybody. Now it's on the way from *exactly the source you would expect*—Bendix, the greatest name in aircraft radio. Introduced at a time when private flying is ready to take a great forward step—reliable V.H.F.* plane-to-ground radio-telephone can expand immeasurably the utility, value and pleasure of small plane ownership. Remember the name Bendix Flightweight Radio. It will soon be ready to prove again that where performance counts *Bendix builds best.*

*Very High Frequency—free of atmospheric static.

BENDIX RADIO DIVISION • BALTIMORE 4, MARYLAND

Listen to "MEN OF VISION" every week over CBS

The Greatest Name in Aircraft Radio

Prior to the war Bendix Radio supplied 70% of all aviation radio equipment used by domestic airlines. In peace as in war Bendix Builds Best.

The Grand Canyon from the air—one of the many wonders of America within easy, practical reach of your Flightweight Radio-equipped plane

Send for the booklet "For Wider Horizons"

BENDIX RADIO

PRODUCT OF Bendix AVIATION CORPORATION

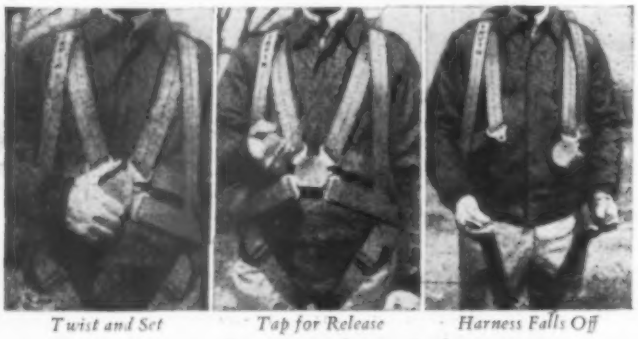
IRVIN AirChute

"SINGLE-RELEASE" Harness

UNITED NATIONS' FLYERS
are using it for
SAFER LANDINGS

A one-hand turn and a tap on the single frontal disk instantly releases the harness . . . leaving the flyer entirely free. Accidental release is impossible before disk is "set" for action.

All United Nations' Air Forces for years have used IRVIN as standard equipment . . . and now the Irvin "Single-Release" harness is acknowledged as superior for all landings. IRVIN, as always, leads in Safety.



Twist and Set *Tap for Release* *Harness Falls Off*

IRVING AIR CHUTE CO., Inc.

Main Office: 1670 Jefferson Ave., Buffalo 8, N. Y.

Complete Factories in Buffalo, N. Y., Glendale, Calif. (1500 Flower St.), and Lexington, Ky., U. S. A. . . . Canada, England and Sweden . . . All Serving the United Nations' Air Forces.

BUY MORE WAR BONDS

had chosen to develop its jet fighter six months earlier instead of delaying jet production to experiment with V-1 and V-2.

★ ★ ★

Improved Ercoupe Due

Featured by the addition of a starter, a boost in cruising speed of about five miles per hour, and a nine-gallon increase in fuel capacity, first 75-hp. Ercoupe demonstrators are expected to reach distributors around the end of September. The factory is almost finished with reconversion and is not expected to lay off any of its 3,500 employes.

★ ★ ★

Sensible Analysis Needed

Accident reports involving personal planes are becoming voluminous in the CAA's Washington offices, swamping the undermanned safety staff. Apt to be misinterpreted, the accident upturn is due chiefly to greatly-expanded flying in personal planes, including lightplane hops by growing numbers of returning combat pilots. Although surplus clunkers are contributing their share of accidents, much can be accomplished to lower the accident trend if operators insist on properly checking out combat pilots before allowing them to try their horsepower talents in low-powered planes. Ex-military fliers can do their part by accepting the check-rides as necessary and sensible precautionary measures. Too many service pilots resent being told how to handle the putt-putts.

★ ★ ★

Air Insurance Liberalized Again

Another significant step by the sixty-two companies represented by the U. S. Aviation Underwriters, Inc., has increased from $25,000 to $100,000 the limit on its individual "airsurance" policies for passengers of airline commercial and personal planes, and coverage has been extended over the entire world for passengers of U. S. airlines. Sold on an annual policy basis, "airsurance" costs $1.40 per thousand for airline passengers and $3.40 per thousand for passengers on private planes. Medical reimbursement of $50 per $1,000 of the principal sum is included. There is no physical examination and no age limit. In addition to pioneering rate reductions, the U. S. group has underwritten many experimental flight projects and instituted far-reaching safety features and requirements.

★ ★ ★

Air Power League Aiding CAP

Civil Air Patrol is working on a peacetime program in which the Air Power League will assume more and more interest in its affairs. The League is stronger than ever, now that it is establishing local units in hundreds of communities throughout the nation. This carries its activities to the "man in the street" from whom air defense proponents must eventually gain active support. CAP is ideally organized to extend APL's long-range air power program, especially with its growing CAP Cadet organization.

★ ★ ★

Private Flying Boom

Still not free of war-born restrictions, private flying on the West Coast is booming. The CAA reports its 6th Region swamped with work resulting from the increased activity, and lists the following gains for the last six months: Student certificates granted, 160 per cent up. Identification cards granted, 140 per cent up. Written examinations given, 240 per cent up. Pilot certificates and ratings issued, 160 per cent up. Aircraft certificated, 170 per cent up. In Los Angeles alone 830 private pilot examinations were given during June and 1,650 in July.

The Pioneer* Autosyn Flowmeter is a remote-indicating instrument of high accuracy and dependability, providing precise indication of the rate of fuel consumption over the entire range. It enables the operator to hold the engines to predetermined consumption rates for optimum power plant efficiency, and adds to flight security by accurately foretelling flight range. Tests at altitudes up to 35,000 feet, and over extreme temperature ranges, show no appreciable errors in indication. Advanced design holds pressure drop extremely low—less than 1 psi drop over the entire operating range. (Complete specifications and data may be obtained by writing to the address below.)

Listen to "MEN OF VISION" *every week over CBS.*

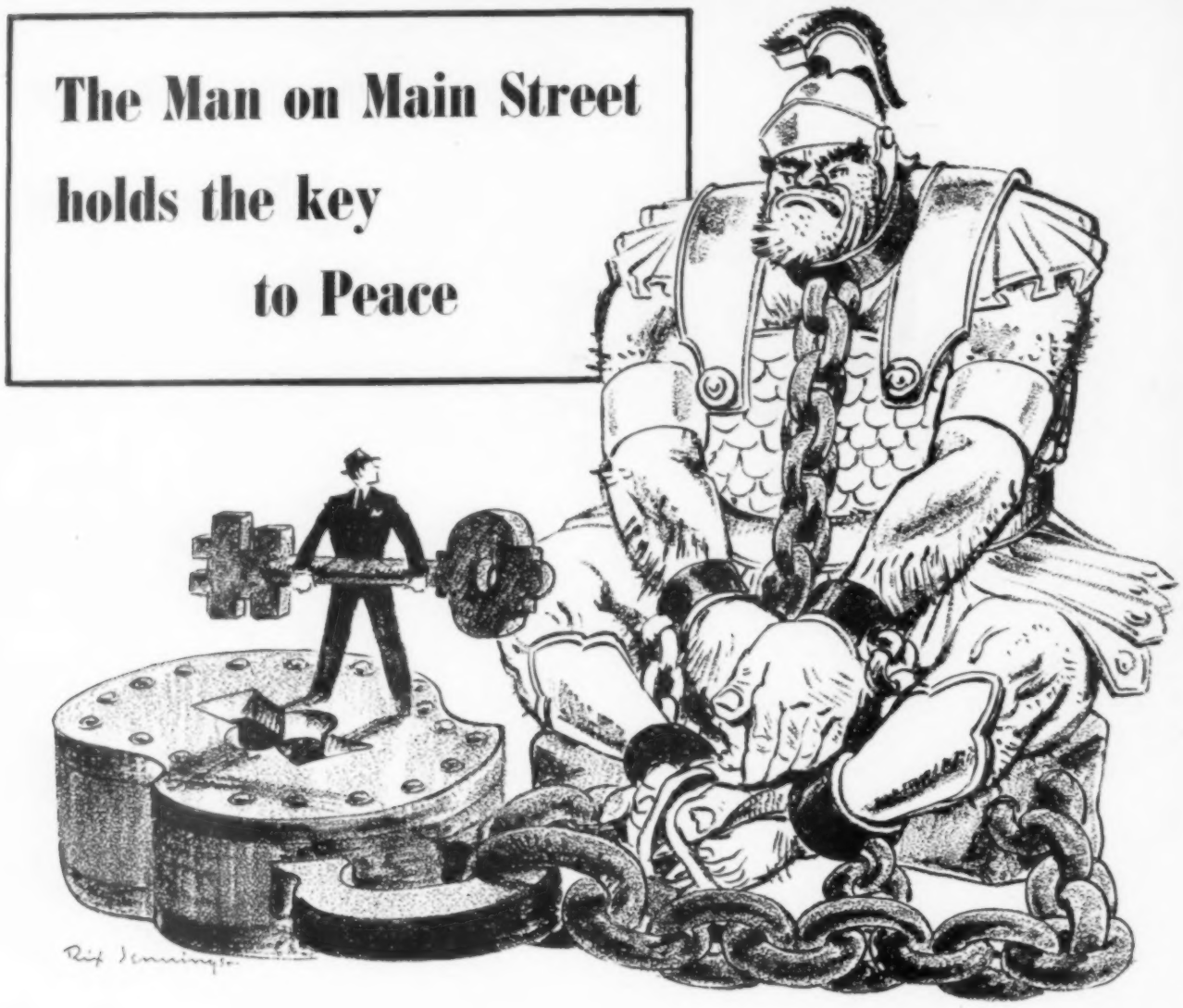
PIONEER INSTRUMENTS *REG. U.S. PAT. OFF.

ECLIPSE-PIONEER DIVISION, Teterboro, N. J.

Bendix AVIATION CORPORATION

This is the second of a series of advertisements concerning the future of Aviation . . . in America

The Man on Main Street holds the key to Peace



JOHN Q. CITIZEN, the Man on Main Street, has a vital stake in post-war aviation. Aviation will provide him with new, world-sweeping utility; he in turn can influence the growth and development of aviation by his lively interest in its affairs. As for National Security, the idea of Permanent Peace Through Air Power is one that can come to achievement only through public support.

Americans have already started locking out the wars of the future by personal support of organizations which are trying to keep America active and strong in the air. As the Germans admitted, when their war was done, Air Power played a major role in the Nazi defeat—and Air Power is strong security against future aggression.

John Q. Citizen has other tools for peace at hand. His interest in private flying, fast transportation, local air terminals, air strips and air parks; his support of air shows and exhibitions; his interest in aviation literature, books, education and research; his participation in aviation organizations . . . all these are specific ways in which he will help make peace through Air Power a reality for this country.

And Bell Aircraft makes a pledge of continuous cooperation. The company will intensify its research and scientific development program which has already brought into being so many aviation *firsts*—the Airacobra and Kingcobra, the "cannon on wings"... America's first jet propelled plane... the first helicopter with built-in, engineered stability... representing the kind of aeronautical pioneering which looks to the future—in the skies.

★ *By War Bonds and Speed Victory* ★

MEMBER AIRCRAFT WAR PRODUCTION COUNCIL...EAST COAST, INC.

BELL *Aircraft*

PACEMAKER OF AVIATION PROGRESS

NIAGARA FRONTIER DIVISION
Niagara Falls, N. Y.
Airacobra (P-39) and Kingcobra (P-63)—Fighters
Airacomet—America's First Jet Propelled Plane
The Bell Helicopter

ORDNANCE DIVISION
Burlington, Vt.
Flexible Gun Mounts and other ordnance materials

GEORGIA DIVISION
Marietta, Ga.
Bell Built B-29 Superfortress

© Bell Aircraft Corporation

1. Positive vapor-control in high altitude flight
2. Stabilized flow of bubble-free fuel
3. Trouble-free bearing and seal arrangement
4. Self-priming even under extreme conditions
5. Ability to pump the fuel tank dry
6. Variety of installation adaptations

PESCO advanced design and performance extend through a complete line of air, vacuum, fuel and hydraulic pumps . . . precision equipment meeting practically all aircraft needs for controlled liquid flow and Pressurized Power.

Increased engine power, faster climb and higher altitude capabilities of modern aircraft demand a fuel booster pump having greater and more positive vapor separating characteristics to handle the larger fuel flow under the more severe operating conditions.

To meet this demand, PESCO now offers an entirely new fuel booster pump—a tank-mounted, compact, electric motor-driven, centrifugal pump in various models for either submerged or external installation. PESCO precision workmanship assures the highest standards of performance and dependability. Write today for new "PESCO Vapor Control" Booklet No. 9. PESCO Products Co., (Division Borg-Warner) 11610 Euclid Ave., Cleveland 6, Ohio.

BORG-WARNER

In Aircraft Hydraulics, Fuel Pumps,
Air Pumps, Related Accessories . . .

PERFORMANCE POINTS TO Pesco FIRST

The "Egg-Beater".. NEWEST HELICOPTER OF THE AAF

With twin 3-bladed rotors intermeshing like the blades of an egg beater, the Kellett XR-8 presents a new and novel design in helicopters. A purely experimental model built for the Army Air Forces, the XR-8 has the advantages of greater power efficiency, reduction of vibration, reduced drag, and reduced power transmission requirements.

Reports from test pilots indicate that it is highly maneuverable, and since the rotors revolve in opposite directions, there is no need for a tail rotor to counteract torque. While no performance figures have been released, the ship is powered by a Franklin air-cooled 245 h.p. engine using CECO fuel pumps.

Chandler-Evans is proud to have a small part in this new step in helicopter development. And as Chandler-Evans has always kept abreast of the newest and latest in America's other great war planes, so will it continue to serve the aviation industry when once again it turns to peacetime production.

The Kellett XR-8 has all the remarkable helicopter characteristics of vertical rise and descent, ability to hover, and to fly backwards and sidewise as well as forwards. (Kellett Aircraft photo).

CECO

CARBURETORS
FUEL PUMPS
PROTEK-PLUGS

CHANDLER-EVANS CORPORATION

SOUTH MERIDEN
CONNECTICUT, U.S.A.

...and it'll be an *all-metal* SILVAIRE for me when I buy my own!

Flyers who are slapping Japs out of the clouds are not risking their lives in inferior aircraft . . . for nearly every Allied plane in the air today is all-metal.

Experienced pilots know that all-metal construction assures greater built-in strength, added durability. All-metal planes possess longer service life . . . provide added safety. What's more, streamlined all-metal contours give precious extra miles per hour.

Because all-metal construction offers so many advantages, look first to Luscombe, builder of the renowned SILVAIRE, pioneer all-metal light plane.

When conditions permit, Luscombe will offer you striking new SILVAIRES—inexpensive to buy, economical and safe to operate, suited to business or pleasure. Send for a *free copy* of illustrated booklet describing the SILVAIRE, mail coupon today.

UNTIL OUR WAR JOB IS FINISHED, *we'll continue to utilize our vast experience in all-metal fabrication of vital parts and sub-assemblies for many famous United Nations' fighter planes. When peacetime production again is resumed, beautiful new* SILVAIRES *will take to the skies . . . even finer planes than those that carried the name* SILVAIRE *to fame before the war.*

LUSCOMBE AIRPLANE CORPORATION, TRENTON 7, NEW JERSEY—DALLAS, TEXAS

SILVAIRE

AMERICA'S FIRST **ALL-METAL** PERSONAL PLANE

BY LUSCOMBE

JML Co. L-J1

Luscombe Airplane Corporation, Dept. F, Trenton 7, New Jersey

☐ Please tell me more about the SILVAIRE.

☐ I'm interested in a SILVAIRE dealership.

Name .....

Street..... City.....

REVVING UP

(Continued from page 4)

example, in 1939 the industry grossed $280 million. Today, even after the contract cancellations, either the Douglas or the Lockheed backlog exceeds the figure for the entire industry in 1939.

★ ★ ★

NO MORE IDENTIFICATION: The Civil Aeronautics Board has rescinded the requirement of identification cards for airmen effective September 5. Their issuance is no longer necessary.

★ ★ ★

SURPLUS BEECHCRAFTS: Good news for many operators and business firms will be the release in the near future of a quantity of twin-engine Beechcraft C-45 transports. A large number will be declared surplus and placed on the market.

★ ★ ★

TEXAS COMMISSIONERS NAMED: Members of the new Texas Aeronautics Commission began plans for operation early in September after being appointed by Governor Coke R. Stevenson. They are Henry Ayres of Paris, private flier for fifteen years and department store owner; Al Buchanan, San Antonio oil man who has operated planes for years and now owns three; and Parker F. Prouty, general manager of the Lubbock Avalanche Journal and aviation supporter. They were to draw straws to determine which would remain on the Commission for terms of six, four and two years, respectively. Regular appointments hereafter will be for six-year terms. The Commission has a $19,625 annual appropriation to launch its operation.

★ ★ ★

CAA JOBS OPEN: The CAA is seeking qualified men and women, especially veterans, for jobs as aircraft communicators at airway communications stations in the United States, Alaska and the Pacific Islands. Salaries range from $2,414 for a communicator trainee to $4,378 for the position of chief overseas communicator. For the jobs in Alaska, 20 per cent of the communicators chosen for training may be composed of man-and-wife-without-children teams. Applications should be made to CAA regional offices.

★ ★ ★

SURPLUS ENGINES FOR SALE: A test sale of 19,000 surplus aircraft engines, of which nearly 5,000 are under 400 hp., will be conducted at seventy-five surplus sales centers in twenty-six states during the period October 1-November 15. Prices will be determined after bids are taken, the Surplus Property Board arranging conditions of the sale to determine a basis for disposing over 200,000 engines eventually to become surplus. The engines will be sold on an "as is" and "said to contain" basis, and will be offered in two categories: (1) standard types and models approved for aviation use and considered to have a postwar market, and (2) obsolete models and others not suitable for commercial and private aviation without extensive modifications. Only a few are new or reconditioned, and not many are useful in lightplanes.

★ ★ ★

SHORT SNORTS: A. D. Palmer has left Curtiss-Wright Public Relations at the Buffalo plant to go with Burke Dowling Adams, advertising agency of Montclair, New Jersey, specializing in aviation accounts. . . . New public and press relations director at Beech Aircraft, Wichita, is W. Homer Kelly. . . . Frank (Doc) Maher, Lafe Parks' energetic assistant, has left Parks Air College and Parks Aircraft Sales & Service Company, with no announcement of his new connection. . . . "Here's How" is the title of a timely little booklet produced by Aero Insurance Underwriters; it includes revised sections of the Civil Air Regulations, air traffic rules, pilot certificates and general operations rules, and is directed especially to the returning military pilot who hopes to keep flying in civilian airplanes. . . . Bob Oertel, Esso aviation sales manager, reports that an Esso flight calculator given to an Air Transport Command pilot nearly two years ago, came home as a souvenir after having been used on a quarter of a million miles over worldwide ATC routes. . . . Looks like Texas might get another aircraft plant; a deal is brewing between the city dads of Tyler and a well-known prewar manufacturer of medium size, single-engine airplanes.

Essair Airways began carrying passengers on its new Amarillo-Houston route and added another daily schedule last month. Expansion plans call for the operation of DC-3's on the route as soon as possible, and Essair will soon file for an extension from Houston to New Orleans. With Essair operating smoothly over its Amarillo-Houston route and planning to expand, Major Bill Long, president, says he's going to see that it's an outstanding operation. "I haven't done any arm-waving except to say I want to run an airline and a good one from now on," he says. "Also, I want to find out whether the little guy stands a chance and I want to find out if the big boys really own the skies." . . . In Kansas City, the Missouri Aviation Corporation has sold its hangars on the Municipal Airport leasehold to Parks Aircraft Sales & Service, Inc., discontinuing its aircraft and engine repair station to concentrate on an expanded program as one of the leading aviation supply houses.

★ ★ ★

ATOMIC POWER FOR PLANES: Until those in the know become more specific, there's no telling where atomic power may lead. The National Advisory Committee for Aeronautics says, for example, that use of atomic energy in aircraft engines is a possibility, although distant. And the American Society of Mechanical Engineers reports atomic power "may find one of its first applications as a new source of energy to drive gas turbines." One scientist said a small portion of "plutonium" could probably fly a plane from the U. S. to China without refueling—"if we could release its power bit by bit into a jet propulsion unit." ★ ★ ★

Airplanes to Sow 50,000 Acres, Using Adams' Seed Pellet Method

Large-scale range grass planting by airplane, using soil-coated seed pellets, will have its first application during the period October 15-January 1. The ingenious method of sowing, described fully in SOUTHERN FLIGHT recently, offers extensive use of pilots and airplanes for rehabilitating millions of acres of range lands, soil erosion control, flood prevention and farm planting.

Dr. Lytle S. Adams, originator of seed pellet planting by airplane, has contracted with the U. S. Department of Interior to sow 25,000 acres of Indian lands in Arizona by January 1, and 25,000 acres of Indian lands in Arizona and New Mexico by June 1, 1946. Two 700-hp. Bellanca Airbusses, carrying loads of about 2,500 pounds of seed pellets per trip, will be used. Each load will be sown within less than thirty minutes of flight. Droppings must be done immediately after it rains to promote seed germination.

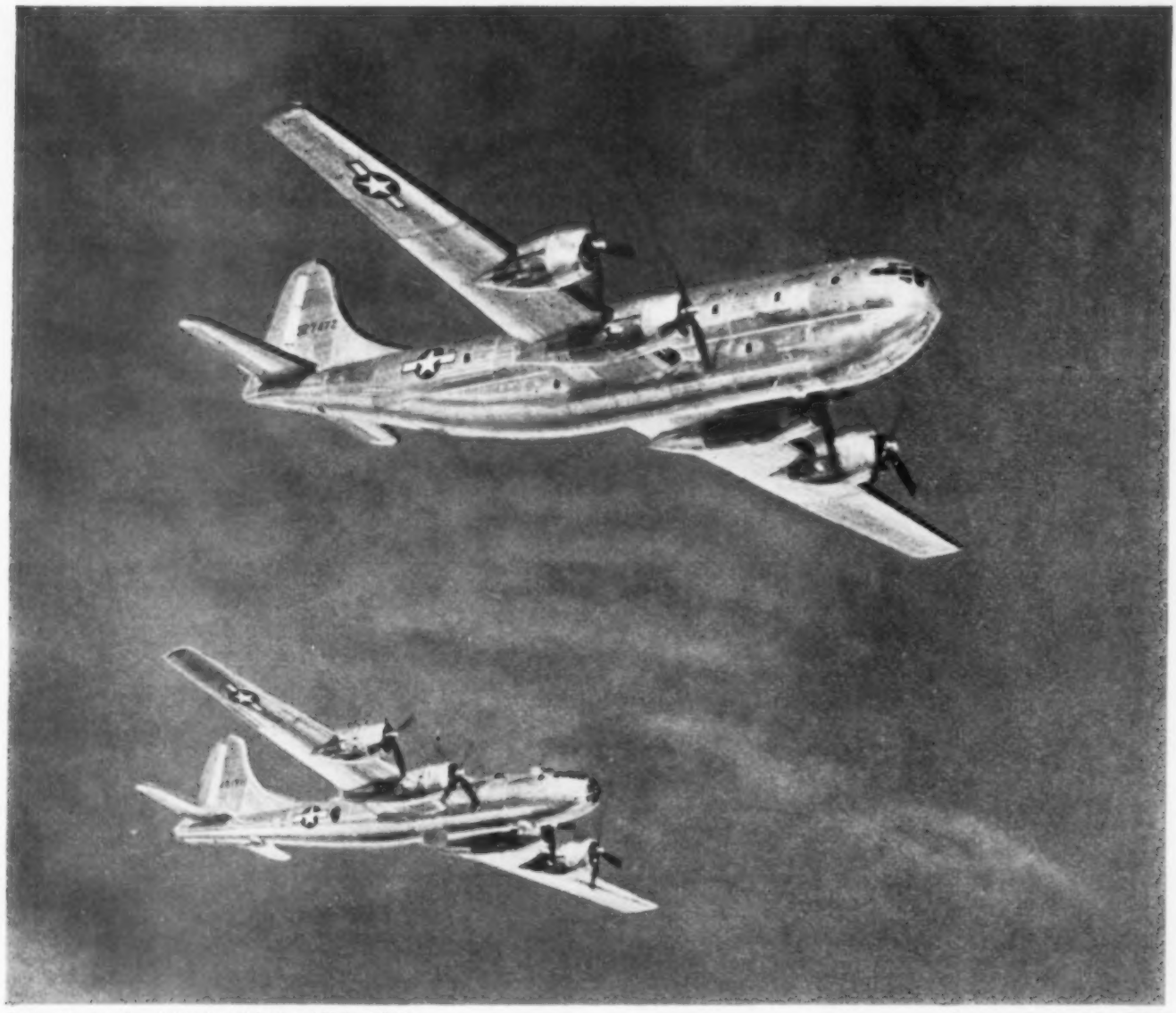
Key to Dr. Adams' aerial planting is a rotor made of pipes and mounted below the seed hopper in the bottom of the fuselage. With this patented gadget altitude and speed are adjusted to drop the specially-prepared seed pellets uniformly. He has guaranteed to plant one pellet per square foot on the Indian lands, each pellet containing seven or eight bunch grass seed. The planes will sow 125 tons of pellets per thousand acres.

JUST BACK from a successful interception of Jap planes, these fighter pilots relax in the ready room of a first-line aircraft carrier in the South Pacific. Theirs is a destination beyond Tokio. These are the faces you'll see at the controls of airliners and air transports; behind airlines desks; in the executive office of aircraft plants. These skilled airmen are ready NOW for tomorrow. Ready with a background of the most terrible schooling, but the finest training and flight experience a man can get . . . *action in war!*

Ready . . . for Tomorrow, too

ESSO AVIATION PRODUCTS *are ready, too! Esso Univis Hydraulic Oils, for example, have ridden with these boys from the freezing North Atlantic to the heat-heavy South Pacific. These advanced high altitude oils have minimum viscosity change under widest temperature variations, plus unusually good stability and special rust-preventive qualities.*

Proved and proved again in the furious trials of air combat, Esso Aviation Products are products you can depend *on to meet the accelerated demands of future aviation.*



Boeing Stratocruiser (above) and Boeing B-29 Superfortress

Keep on Buying War Bonds

Trail-blazer for peacetime flight

The Boeing B-29 Superfortress is something more than the weapon that helped win the war against Japan. It embodies principles that will *revolutionize air transport* now that victory is won.

Not only have the great Boeing planes in which you may soon travel already been designed . . . a military version of the first true super-transport of the future—the Boeing Stratocruiser—has broken all records for transcontinental flight, with a coast-to-coast average speed of 383 miles per hour!

Boeing has had more experience in the design and building of four-engine aircraft than any other manufacturer in the world. Like the Superfortress, the new Stratocruiser has four engines —and even greater horsepower will be added.

Like the B-29, it has the extraordinarily efficient Boeing wing, giving it *huge carrying capacity*—plus higher performance and greater economy in operation than any other transport.

Again, like the Superfortress, the Stratocruiser benefits from Boeing leadership in stratosphere research and the production of aircraft for *high-level, over-weather operation.* It has improved pressurized cabins—*plus* new refinements in sound-proofing and air-conditioning.

It has all the structural and aerodynamic advances of the last three years, proved in war on Boeing-built aircraft —all the new features contributing to safe navigation, ease of control and dependable performance—*plus* passenger comfort never before imagined. It expresses, as no other commercial airplane has yet done, man's growing understanding of the laws of flight.

Now that peace is here, Boeing principles of research, design, engineering and manufacture will bring you the Stratocruiser and other advances in air transport . . . and you may know of any airplane — if it's "Built by Boeing" it's built to lead.

DESIGNERS OF THE B-29 SUPERFORTRESS • THE FLYING FORTRESS • THE NEW STRATOCRUISER
THE KAYDET TRAINER • THE STRATOLINER • PAN AMERICAN CLIPPERS

BOEING

How do you rate in the AIR-Q test?

If you can answer at least three of the four questions on this page correctly, give yourself an "A" in Aviation. You're one of a steadily increasing number of Americans who realize that, in the future, "Airpower is peacepower."

If Hitler could do it again, which country would he crush first?

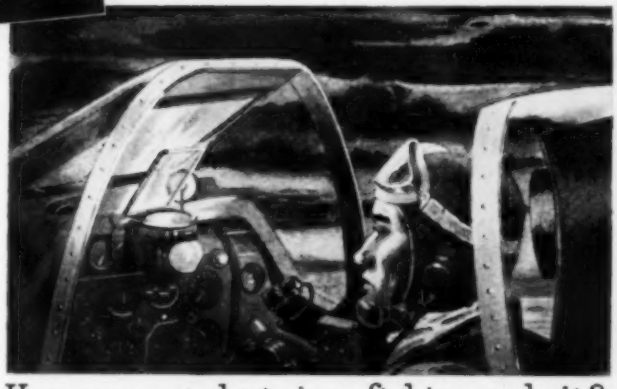
England ☐
America ☐
Russia ☐

Probably America. Evidence: Germany by V-E day had developed aircraft capable of reaching and destroying our homes and factories. Hitler realized too late that it was America's production genius that turned the tide. That's why, in the future, we must always be prepared for a sneak attack. *For maximum security, America must maintain an up-to-date air force.*

How many drawings were needed to design the P-51 Mustang?

100 ☐ **700** ☐ **2800** ☐

It took 2800 original drawings. Add months of wind-tunnel research, detail engineering, testing, tooling, assembly line set-ups and personnel training and you'll see why it takes more than a year to get a new airplane into quantity production. Wars can begin in a matter of minutes. That's why *it's imperative that tomorrow's planes be designed today!*



How many gadgets in a fighter cockpit?

55 ☐ **70** ☐ **100** ☐

100 or more is the correct answer—and, in a P-51 Mustang, they all fit into a cockpit that's only 35 inches wide! Yet pilots have no trouble finding the right "gadget" at the right time. Through constant research North American engineers scientifically group controls according to frequency of operation. Result: orderly roominess, greater pilot efficiency. *In designing, engineering and producing military planes, North American Aviation sets the pace!*

Will America's future aircraft be:

Rocket-Powered? ☐
Jet-Propelled? ☐
Propeller-Driven? ☐

All three answers are correct—provided we continue development of improved aircraft. North American Aviation engineers are constantly working with new and wonderful aeronautical ideas. They know that *when the aircraft industry is through making changes—it's through!*

North American Aviation

Sets the Pace

DESIGNERS AND BUILDERS of the P-51 Mustang fighter, the B-25 and PBJ Mitchell bomber, the AT-6 and SNJ Texan combat trainer. North American Aviation, Inc. General Offices, Inglewood, California. Member Aircraft War Production Council, Inc.

★ The Voyager 125 is the First of a Complete Line of Postwar Stinson Planes

Four sit in comfort in the luxuriously upholstered seats of the ventilated and soundproofed cabin. There's full visibility in all directions for pilot and passengers.

You don't have to "stoop" and "crawl" to get in and out of the Voyager 125. Take a look, too, at the unusually wide doors and scientifically streamlined and positioned step.

Fully adjustable seats bring all controls within easy reach. Instruments are all grouped on the panel for quick reading and there is provision, too, for blind-flight instruments. There are wing slots to prevent spins and stalls, giving the plane unusual stability and control.

First—FOR TOMORROW'S PERSONAL FLYING!

WHEN YOU take to the air in your Stinson Voyager 125, you'll really *load up* and *leave!*

This new personal plane by Stinson is a cross-country ship that will take four people. And there's plenty of room for luggage besides.

Take a look at these close-ups of the Voyager 125 and see what comfort, safety, and economy are in store for you when you fly your new Stinson.

And that day isn't too far off. For, although we're still busy building planes for our fighting forces, the Stinson Voyager 125 will soon be coming off the production lines in quantity.

In the meantime, we'd like to send you a booklet giving full information about the Voyager 125.

For FREE illustrated brochure, write Private Sales Director, Stinson Division, Consolidated Vultee Aircraft Corporation, Wayne, Mich.

PERFORMANCE OF THE VOYAGER 125

Maximum speed	**128 mph**
Cruising speed	**116 mph**
Maximum endurance	**5 hours**
Maximum range	**580 miles**
Rate of climb	**670 fpm**
Service ceiling	**13,800 ft.**
Take-off at sea level	**550 ft.**
Landing run	**280 ft.**

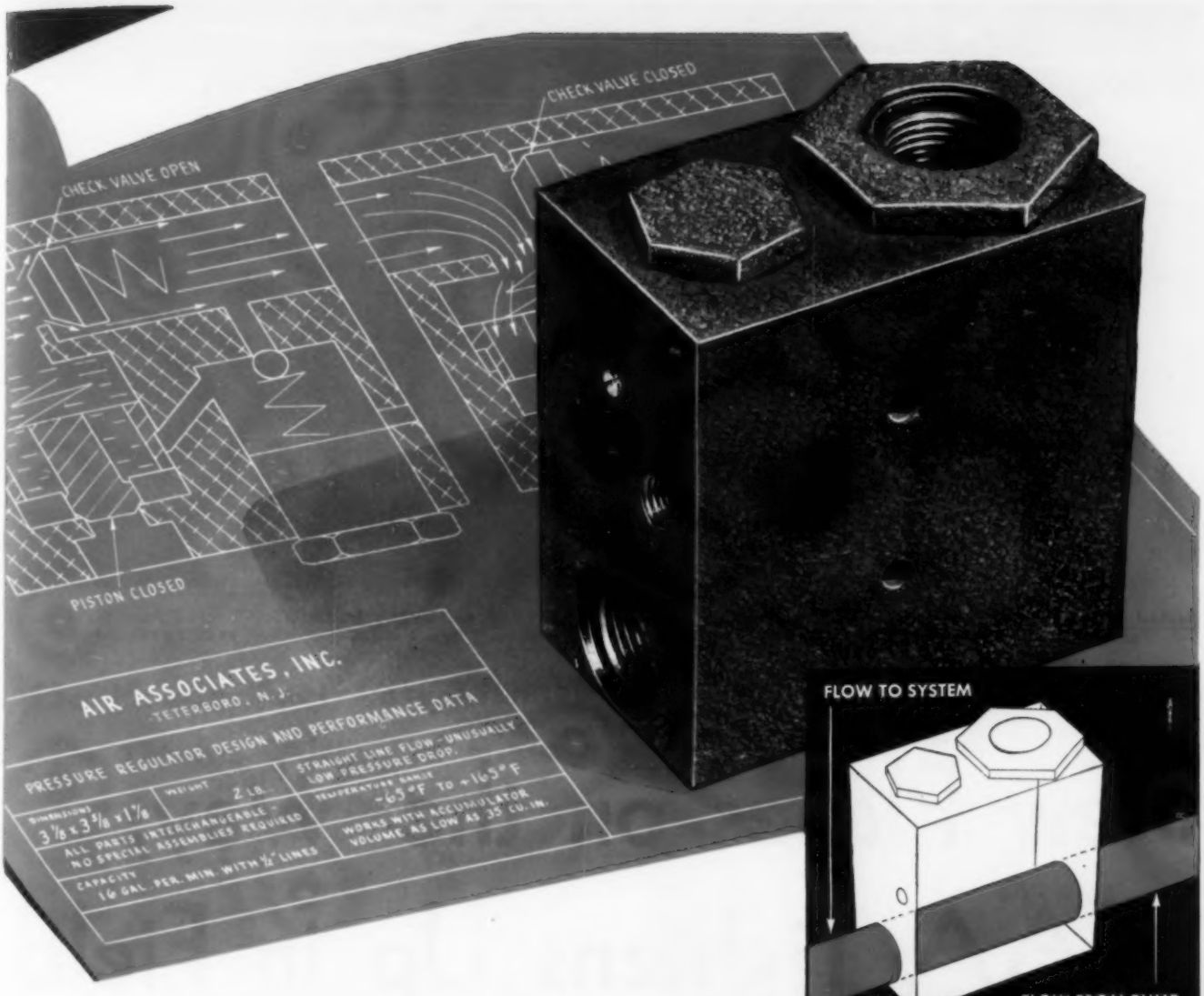
Operating costs are low! You'll fly the Voyager 125 for less than 6 cents a mile . . . approximately 1¼ cents per seat per mile.

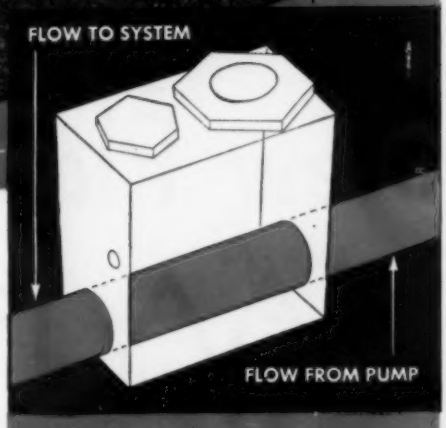
That includes everything . . . depreciation, complete insurance coverage, hangar storage, gas, oil, and reserve for overhaul.

Stinson

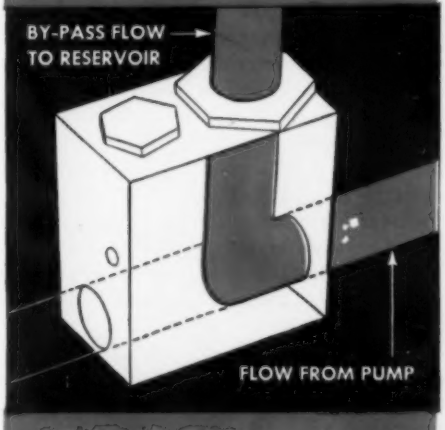
The Aircraft Standard of the World

FREE SERVICE MANUAL: A new and complete Service Manual for owners of the Stinson Model 10-A (Voyager 90) is now ready. Send NC and serial numbers of your Voyager 90 for your free copy . . . to Stinson, Wayne, Mich.


CHECK VALVE CLOSED
CHECK VALVE OPEN
PISTON CLOSED
AIR ASSOCIATES, INC.
TETERBORO, N. J.
PRESSURE REGULATOR DESIGN AND PERFORMANCE DATA
DIMENSIONS 3⅜ x 3⅜ x 1⅞
WEIGHT 2 LB.
ALL PARTS INTERCHANGEABLE — NO SPECIAL ASSEMBLIES REQUIRED
STRAIGHT LINE FLOW—UNUSUALLY LOW PRESSURE DROP.
TEMPERATURE RANGE -65° F TO +165° F
CAPACITY 16 GAL. PER. MIN. WITH ½" LINES
WORKS WITH ACCUMULATOR VOLUME AS LOW AS 35 CU. IN.



FLUID FLOW...
"Cut-In" Position with check valve closed



FLUID FLOW...
"Cut-Out" Position with check valve open

3-RANGE PRESSURE REGULATOR

One Size Meets Every Hydraulic Need!

Tested, proven, available now—a single hydraulic pressure regulator for 1000, 1500 and 3000-pound hydraulic systems! . . . Air Associates new, revolutionary HC-2895 Unloader Valve—smaller and lighter than conventional types—is adjustable while installed. You simply turn adjusting plug to desired pressure, even with system in operation! . . . Maintains consistent pressure differential of ten per cent . . . retains pressure with no leakage through the valve after cut-out. Port arrangement permits hydraulic tubing to lie flat in one plane. Especially suited to test stand use where pressure requirements vary . . . With this new regulator Air Associates again demonstrates its ability to come up with the right answer at the right time to meet aviation's toughest problems! For detailed information write, wire or phone our nearest office—

AIR ASSOCIATES
INCORPORATED

Backed up by more just like it moving along the assembly line, Taylorcraft's first post-victory Model BC12-D rolled from the factory on August 30. President Nash Russ is at the prop with George Galipeau, a New England distributor, handling the switch.

Private Flying Roundup:

New Planes on the Way; CAA Tightens Up in Field

By GEORGE E. HADDAWAY

NOW that victory has released manufacturers from military contracts which were instantly cancelled upon Japan's surrender, brand new airplanes for the personal flier are in production. Factory facilities are being filled as rapidly as materials and supplies can be obtained, with assembly lines picking up speed as parts and accessories flow from greatly improved shops. First planes in quantity production are mostly refined versions of prewar models, which can be turned out sooner, in greater volume, and, for the present, more economically than newer designs.

Meanwhile more postwar developments are being revealed, and some of the new designs announced in recent months are undergoing significant changes and improvements. Three well-known victory models are being improved by increased power.

And the CAA, gearing for expanded civil flying activities after accomplishing more than it has talked about for the war effort, has been placed on the hot spot by charges of malfeasance aimed at some of its representatives in the field. A Department of Commerce investigation, which has already been marked by a couple of resignations and reassignments, has been accompanied by a directive from Administrator T. P. Wright launching a seven-point program "to insure strict and impartial enforcement of the Civil Air Regulations."

First Taylorcraft

New personal planes began to flow off the assembly lines on August 30 when Taylorcraft, reorganized as a division of Detroit Air-Craft Products, Inc., rolled out a refined version of the prewar Model BC12-D, 65-hp. side-by-side two-seater. It was completed only four days after the Japanese surrender had been signed, sealed and delivered, and was the first civilian lightplane to be delivered from a moving assembly line following the war's end. Nash Russ, Taylorcraft president, said the 65-hp. model will sell at $2,295, and declared scores of other BC12-D's were being assembled on the 1,000-ft. production line at Alliance, Ohio. First deliveries are going to distributors, each of whom will receive a demonstrator within sixty days, Russ said. Optimistic over market prospects, Russ expects to produce 5,000 Taylorcrafts a year.

Luscombe Output Gaining

The first Luscombe to be produced since war began was completed on August 12 in Dallas. With military contract cancellations, Luscombe accelerated completion of the Dallas factory and by October 1 or sooner will reach an assembly line production rate exceeding by a substantial margin the top Silvaire output before the war. Several additional Silvaire 8E models, as the improved Luscombe is designated, were to be completed in the new Dallas plant early in September. Approximately 1,000 are scheduled to be produced there by January 1. The new Silvaire has an 85-hp. engine, plus

starter, generator and battery as standard equipment.

Aeronca Delivering New Planes

On September 5 the first post-victory Aeronca was scheduled to come off reconverted assembly lines at Middletown, Ohio. A 65-hp. Champion tandem trainer incorporating new improvements, it will be followed by 550 Aeroncas scheduled for production by January 1. Next in line for production is Aeronca's side-by-side two-seater Chief, deluxe companion of the Champion, having the same power plant. A two-place, two-control model called the Chum, with 75-hp. engine, is to be produced later, and after that Aeronca has scheduled its newly-designed four-place Eagle. Half of Aeronca's workers were retained following military contract cancellations, and about 1,000 are expected to be employed by January 1. John W. Friedlander, president, said peacetime materials and labor are both "plentiful."

115 Hp. for All-Metal Swift

Globe Aircraft Corporation, of Fort Worth, which has been tooling to produce an all-metal version of its widely-advertised two-place Swift, will power the new Swift with a 115-hp. Continental engine instead of the 85-hp. engine used in Globe's demonstrator. Coincident with this announcement, John Kennedy, president, said the new engine installation is "merely the first of many outstanding innovations to be incorporated into the new Swift within the next few months." Orders for a large quantity of the 115-hp. power plant have been placed, and it will provide a cruising speed of 135 to 140 mph. at 75 per cent of power, he said. The new price was not given, but earlier prices were $3,295 for the 85-hp. Swift and $3,450 for a 100-hp. version.

New 85-hp. Tricycle

The newest postwar personal plane is a two-place, low-wing, all-metal, 85-hp. tricycle developed by All American Aircraft, Inc., of Long Beach, California. Scheduled for public flight showing during September, the new All American "Ensign" is expected to cruise at 115 mph., and Gerald Adler, president of the company, has plans to produce more than 1,000 units of the new model during 1946. Sales will be through direct factory and service representation, with branches to be located in twenty principal cities. Deliveries are expected to be available to private fliers in December. "Mass production methods, keynoted by latest automotive practices and combined with manufacturing experience gained during the war, will be utilized to fulfill demands of the private flier at low-

(Continued on page 62)

15c Hourly Fuel Cost Claimed for 125-hp. Aircooled Diesel

A new four-cylinder, opposed-type, aircooled, 125-hp. aircraft Diesel engine using only three gallons of 5c fuel per hour has been announced by Fred Thaheld, research engineer, prominently identified from 1929 to October, 1944, with development of the Guiberson aircooled Diesel, but who is now operating on his own at Brea, Calif., where the new engine was built in the shops of the Shaffer Tool Works, well-known oil field equipment manufacturer.

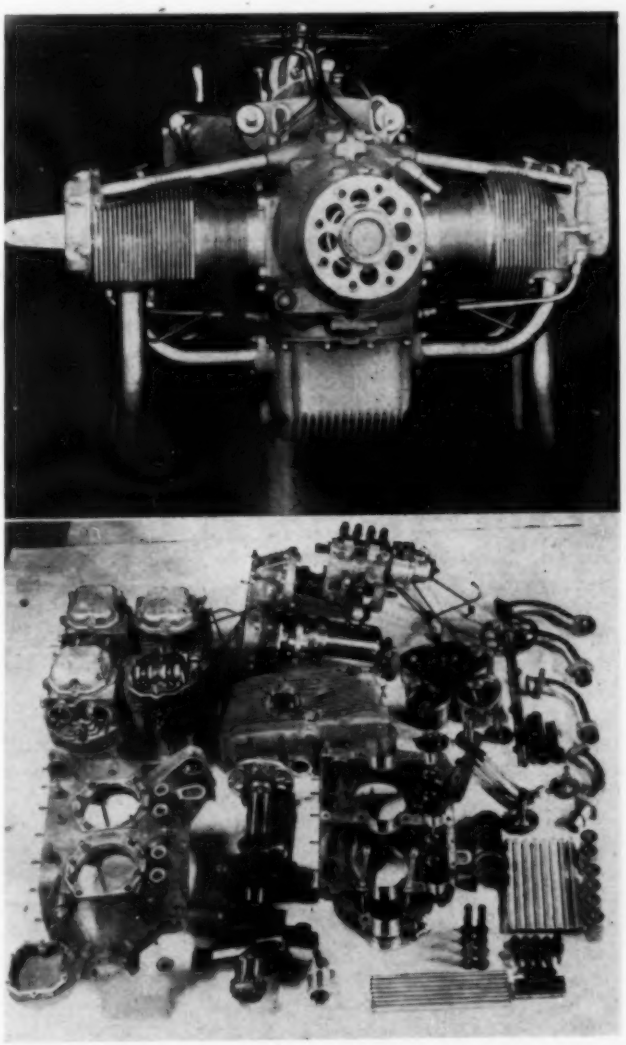
Aiming for the personal aircraft market, Thaheld says his new Shaffer-Thaheld Model AD-290 engine's dimensions and low weight of 235 pounds, permit interchangeability with 125-hp. gasoline engines. He expects to place it on the market during the Spring, following flight tests beginning in September, declaring it can be produced to sell at competitive prices.

Exhaust Smoke Eliminated

A new high-turbulence controlled-combustion chamber design employed in the engine is said to eliminate smoke from the exhaust, long an objection to Diesel power. It will deliver power at altitudes 40 per cent higher than gasoline engines, according to Thaheld, and has a piston displacement of 290 cubic inches. No magnetos, ignition system or carburetor are used. It is equipped with a Breeze combustion starter.

Thaheld used standard parts as far as possible in designing the engine, with a view of holding down costs and simplifying maintenance and parts replacement. The fuel pump is a standard make for Diesels. Cylinders have machined fins for more efficient cooling.

The designer has plans for a six-cylinder flat model developing 175 hp. and a geared version of the six-cylinder model developing 200 hp.



Front view of Shaffer-Thaheld Diesel for lightplanes shows compactness of the four-cylinder flat engine. In lower photo are the 125-hp. engine's parts, arranged to show its simplicity and lack of ignition equipment.

Difficult terrain was no obstacle to the GI Air Force's 190-hp. Stinsons. This 700-ft. strip at Traversa, Italy, altitude 1,700 feet, was called the "Ski Jump"—one end was ninety feet higher than the other. A two-story house stood at one end and a mountain cliff at the opposite. Heavy cross winds added to the hazard. —(Photo by Sgt. Deane Gilmour.)

GI Air Force

Enlisted liaison pilots amazed generals with their combat successes. The L-5's, operating from improvised fields, doomed enemy artillery, captured air strips and duped a German commander into surrender.

BY SGT. FORD EASTMAN

THEY may have been sent to the Mediterranean Theater of Operations for non-combat duty, but as one unidentified General put it, "It's amazing what this group accomplished overseas, especially under the conditions which they encountered in Europe."

The General was speaking of the 121st Liaison Squadron of the 12th Air Force in Italy, the first unit of its kind in the European Theater and the only one to operate successfully in the Mediterranean Theater.

It was known as the GI Air Force, for its flying personnel as well as most of the ground crew were enlisted men, specially trained for liaison flying. More than 80 per cent of the squadron, including clerks, mechanics and technicians, were former civilian pilots. They flew the small, unarmed L-5 type aircraft (Stinson) which was not designed for combat use because they make easy targets for enemy planes, flak guns, and small arms fire. They have flown hundreds of missions over enemy territory in photo and visual reconnaissance, dropping leaflets behind enemy lines, spotting enemy artillery, and evacuating wounded from front line areas with the squadron at only half its authorized strength.

During the last stages of the war, the GI pilots were landing on air strips in the midst of German armies, engaging in small arms skirmishes with the enemy over the possession of an air strip, and in addition, received credit for the capture of more than fifty Germans and played the leading role in the surrender of an entire German army.

Making their story more amazing is the fact that they operated under the worst conditions of any liaison squadron in the Army, according to the War Department. Landing fields were hacked out in the mountains, on small, muddy grain fields, on dried up river beds, on roads with trees and ditches lining both sides, and at one place in Northern Italy, a top of a dyke was used to land and take off.

Ordinary vehicle gasoline, much of it containing water, was used for fuel and picked up wherever it could be found if the planes wandered too far from their home base. They flew in all types of weather, including rain, wind, and snow and met dangerous hazards at every turn. Yet, all this was accomplished with a minimum of accidents and loss of life.

Only one plane was shot down by flak with the loss of life although one other received a burst and twenty-seven holes were found in the plane. Another plane was caught in a treacherous down-draft in the mountains and crashed, killing two of the airmen.

From Cubs to A-20's to L-5's

Activated at Vichy Army Air Field, Vichy, Mo., on May 1, 1943, the 121st Liaison Squadron first began flying courier and observation missions, passenger transport, camouflage spotting, and air-ground liaison. On June 25, 1943, Major Parker, then a captain, joined the squadron as commanding officer and immediately set up the training program for liaison pilots. The program was later adopted by other liaison squadrons.

With forty airplanes and a full complement of personnel for four flights,

the 121st Liaison Squadron embarked for Casablanca in March, 1944. There, however, their planes were requisitioned by the ground forces artillery and the squadron was inactive until assigned to a tow-target group in Algeria.

There the unit was given ten war-weary A-20's which were patched up with C-ration cans and equipped with tow-target equipment. Part of the squadron were attached to other tow-target units and flew as co-pilots on B-17's and B-25's towing targets for Allied anti-aircraft gun practice.

After moving to Italy, two flights, or half of the squadron, were sent to France where they were formed into a new group in the European Theater, while the remaining half of the squadron awaited the arrival of equipment and planes.

For several weeks the only plane they had was an old patched up Cub which was kept busy from the break of day until late at night. There were twenty-three pilots for the one plane.

It wasn't until early in September, 1944, that the squadron received the quota of L-5's and began liaison work. At first they flew regular courier missions, carrying high-priority official mail, but with both the German and Allied Armies dug in along the Apennines Mountains the squadron began flying combat photo and visual reconnaissance missions in support of the 5th Army in addition to their courier service.

Ground force officers from the rank of general down to second lieutenants were flown behind the enemy's mountain lines to observe the terrain. Photos by the hundreds were taken of suspected gun positions, enemy command posts, and the land beyond the visual range of the ground forces. These photos, which were taken, developed and flown back to the front lines in only three hours' time, proved a great aid to the Allies during the final push to enter the Po Valley.

At the same time, other missions were sent out over enemy territory, dropping millions of propaganda leaflets in concentrated areas, including the heavily defended city of Bologna which even the larger fighting ships of the 12th Air Force avoided whenever possible. Flak over Bologna was considered the heaviest in Northern Italy, but the 121st Liaison Squadron pilots returned from their missions unscathed.

"Ski Jump" Runways

Because the flights were attached to different ground corps for operational control it was necessary to move with the corps during the rapid advance. To do this they were forced to land

Twenty-seven flak holes were found by Tech. Sgt. Henry R. Mangum, Jr., after flying his L-5 over the front, but he returned safely. Only one of the 121st Liaison Squadron's Jeeps was shot down during nine months of combat flying. German artillery seldom opened up on the L-5's, lest their positions be spotted.
—(Photo by Sgt. Deane Gilmour.)

on makeshift fields, some of them less than 300-yards long. If the corps was in advance of the squadron they would cut the grass on a grain field or chop down a tree here and there and the planes would fly in.

If however, the planes operated ahead of the advancing armies, which was often the case, they had to pick their own air strips and more often than not, engage in the fire fights with the Germans for control of the field.

One flight of four planes moved to nine different fields in three days' time. Unfortunately during this rush period only three propellers were available for the four ships, so when a move was made two planes would land on the new field and remove the propeller from one of the ships and fly it back to the old air strip, put it on the propellerless plane and then they would all fly to the new field.

Another flight, led by Technical Sgt. George E. Mengel of Lawton, Oklahoma, was the first to land at Milan and was forced to take twenty-eight German prisoners before clearing the airport.

The squadron received its biggest thrill of the war just a few days before the armistice was signed in Italy by scaring a German general into surrendering his entire army. The General had walked into the ground force headquarters, offering to surrender himself only, but while discussions were going on a call was put in for the little liaison planes to "buzz" the headquarters and try to sound like P-47 Thunderbolts if possible. When the planes came over (only five were available at the time) the General quickly relented and signed the surrender terms providing the Allies would call off their "vicious" air force. The surrender terms were later nullified with the complete surrender of the German forces in Italy, however, but that did not detract from the squadron's accomplishment.

In nine months of combat flying in Northern Italy, the 121st Liaison Squadron flew a total of 6,818 missions, with 940 of them combat, and amassed a total of 6,884 flying hours. Combat hours total 986. During this time only a maximum of sixteen planes and less than two dozen pilots were available.

Members of the squadron collected a total of fifty-two awards, including three Distinguished Flying Crosses, four Bronze Star Medals, and forty-five Air Medals, and won more than a dozen commendations on the Italian front. ★ ★ ★

Throughout the Italian campaign the 121st lived and worked in quarters such as this. The operations room is a German vehicle captured during the push up the Po Valley.
—(Photo by Sgt. Deane Gilmour.)

More Sales by Plane

Flying salesmen cover more territory in less time and that adds up to more business. Here's the record of one who has done just that for twenty-five years.

By E. W. "Pop" CLEVELAND

Place: John Doe & Co., Cleveland, Ohio, Sales Director's Office.

Scene: Director is answering a phone call from a roving salesman, Smith.

Salesman: *"Hello, Boss. I'm in New York and have just heard that X & Co. in Denver are about to place an order for a big piece of business."*

Director: *"O.K. Go ahead and cover it."*

Salesman: *"Good. I'll be able to take off from here early tomorrow morning, and be in Denver about twelve hours later. That should give me plenty of time to tell my story."*

Next day, Salesman Smith sends following wire from Denver:

John Doe & Co.
Cleveland, Ohio

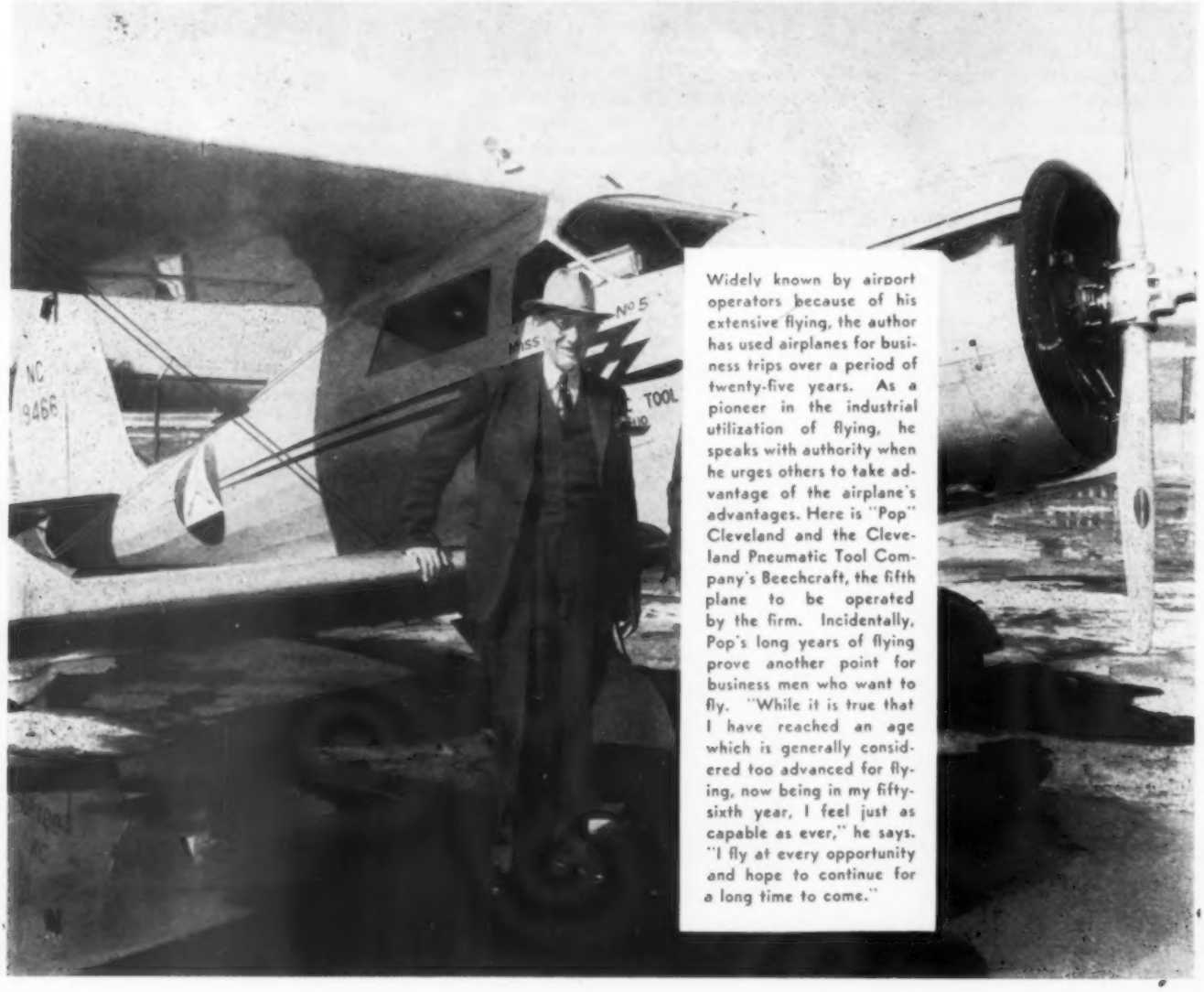
"Contacted customer. Contract closed. Will be back in New York tomorrow."

Fantastic? Well, it may sound that way to those uninitiated into the miracle of flying, but to the writer, who has been peddling around the country flying his own plane for twenty-five years, this type of conversation has been commonplace for a long time.

The Cleveland Pneumatic Tool Co., with which I have been connected in a sales capacity for eighteen years, became interested in the airplane as a medium of business coverage as far back as 1927. In that year, as an experiment, our company bought its first airplane for the purpose of entering the Ford Reliability Tour, thereby to demonstrate a product we were then merchandising — the Aerol strut.

So many advantages were demonstrated by that original plane of ours that management decided then and there to go further with the experiment. At one time or another, in the first year of its use, that plane bounced to a stop in practically every cow pasture in the United States, under the not-too-expert hands of the writer.

Since that early experiment, there has not been a time when our company has been without an available plane of its own, ready to take off on



Widely known by airport operators because of his extensive flying, the author has used airplanes for business trips over a period of twenty-five years. As a pioneer in the industrial utilization of flying, he speaks with authority when he urges others to take advantage of the airplane's advantages. Here is "Pop" Cleveland and the Cleveland Pneumatic Tool Company's Beechcraft, the fifth plane to be operated by the firm. Incidentally, Pop's long years of flying prove another point for business men who want to fly. "While it is true that I have reached an age which is generally considered too advanced for flying, now being in my fifty-sixth year, I feel just as capable as ever," he says. "I fly at every opportunity and hope to continue for a long time to come."

a moment's notice to cover any unexpected situation in any part of the country.

In the same year that we acquired our first airplane, it was replaced by a larger model, which was flown in the derby from New York to Spokane, Washington, where the National Air Races were held. We participated in the 1929 tour in our third airplane, and our fourth, a Stinson SR-5, was purchased from my good friend Bill Mara, then sales director for Stinson Aircraft, now a division of Consolidated Vultee Aircraft Corporation. Our present plane is our fifth.

Long Record Proves Utility

Our participation in the Ford Reliability Tours for several successive years offered us unlimited possibilities for sales promotion through the exceptional opportunity it provided for frequent and close contact with prominent manufacturers in scattered parts of the country. In no other possible manner could we have enjoyed such wide representation.

My accumulated experience with the airplane over a twenty-five-year period has given me the firm conviction that it is not only the quickest and most effective means of business transportation, but it is a downright smart sales stimulant as well.

It is also my opinion that its advantages may be equally enjoyed by any type of so called "big business," whether it be merchandising an airplane component or not.

An actual experience that comes to mind, illustrates to me the truism that business, like gold, "is where you find it."

Years ago, I started one morning about dawn from Cleveland to Seattle. After flying for about an hour and a half, I became sleepy and decided to set in at the emergency field of Goshen, Indiana, where I proceeded to land and taxi to a quiet corner of the field, there to settle down for a few winks. I was rudely awakened by someone pounding on the door and upon opening my eyes, discovered the intruder to be an old friend, Cliff Mulser, now a commanding officer in the AAF, then a barnstormer of note, standing outside. His first words were, "Do you have any of those Ford tri-motor tail wheel oleos left?" We did. Cliff wrote out a check for the price of the unit, and the deal was closed.

I could recount many experiences of contacts made and business closed year after year throughout the country which, but for my ability to be there "fustest with the mostest," I would have lost entirely.

While it is true that I have reached an age which is generally considered too advanced for flying, now being in my fifty-sixth year, I feel just as capable as ever, of stepping into my plane for a cross-country flight. I fly at every opportunity and hope to continue for a long time to come.

No attempt will be made here to draw an issue as to the airplane vs. the automobile in business, nor will any detailed comparison be undertaken, since, to the writer at least, their functions do not parallel. However, a fair estimate would place the operational cost per passenger mile (based on an occupancy of four) at about 1½c, which compares favorably with that of the average automobile used for business. But at this point, the comparison stops, for here the plane's advantages begin to pile up—advantages counted in terms of greater speed, savings on hotel accomodations occasioned by long trips, savings on travel time and coverage of vastly more territory which are virtually incalculable.

800 Miles, 7 Customers—in 1 Day

One trip which I recently took might serve as a typical example of the practical usage to which our plane is constantly being put. Taking off from Cleveland early in the day, I flew to Hartford and Bridgeport, Connecticut, for business calls on Vought and Sikorsky. My next stop was Farmingdale, Long Island, where my third call of the day was made upon Republic Aircraft. Gassing up at Roosevelt Field, I flew down to Wilmington, Delaware, to make call number five. After an hour spent there with Bellanca, I proceeded to the Glenn L. Martin plant in Baltimore, Maryland, transacted my business there, and was off to my seventh and final call at the home of Fairchild at Hagerstown, Maryland, where I bedded down for the night. Had I so chosen to do, I could have easily made it back home to Cleveland within an hour and a half that same night, but instead I remained there for further travel southward.

Within one working day I had thus made seven stops over an area of approximately 800 air miles with ample time at each stop to transact my business. Obviously, it would have been impossible to duplicate this schedule by any other conceivable means of travel.

Our present airplane has seen five years of service, flies from 25,000 to 35,000 miles per year over the entire United States and Mexico and is still going strong. We have every intention of procuring our sixth as soon as aircraft manufacturers are ready to bewilder us with their postwar offerings.

The postwar airplane will embody many advanced features of construction which American manufacturers have learned through intensive wartime production. Of these, to my mind, the most important are built-in simplification of flying and economy of operation. These two important advancements, together with the recent relaxation of outmoded CAA flying regulations, will place the personal business plane well within the practicability of thousands of traveling salesmen now spending a great part of their lives in Pullman cars or automobiles "between jumps." Moreover, with the realization of extensive development plans, now in the making, for local airports and airstrips throughout the country, the practicability of territory coverage by personal airplanes will become a proven and accepted fact.

Of course, the die-hards will continue along their old trodden paths. But the progressive type of businessman, with which our country abounds, will soon be embracing the aerial medium of personal transportation. And he'll also get the lion's share of the business. ★ ★ ★

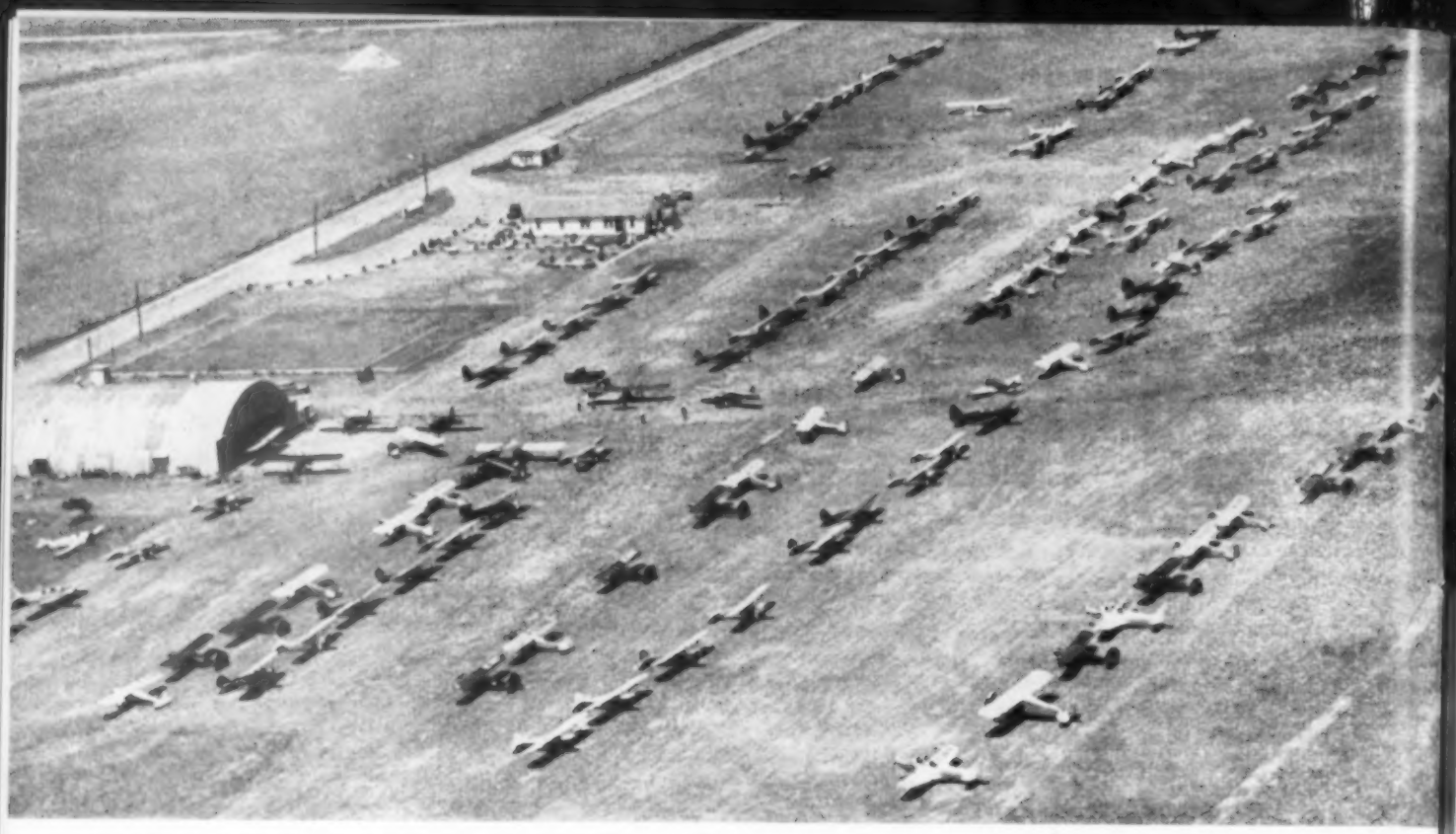
AIRPLANE TRAVEL COSTS

Actual record of one month's travel by the author in a four-place, 330-hp. Beechcraft, cruising at 150 mph. average.

Trip	*Time*	*Gas*	*Oil*	*Storage*	*Total*
Cleveland to St. Louis	3 hr. 15 min.	$20.16	$2.10	$ 2.00	$24.26
St. Louis to Ft. Worth	4 hr. 30 min.	22.40	2.80	12.00	37.20
Ft. Worth to El Paso	4 hr. 25 min.	27.00	2.80	2.00	31.80
El Paso to Phoenix	2 hr. 55 min.	12.94	6.00		18.94
Phoenix to Burbank	3 hr.	16.80	2.10	28.00	46.90
Burbank to Winslow	3 hr.	16.80	1.40		18.20
Winslow to Amarillo	3 hr. 10 min.	16.80	1.40		18.20
Amarillo to St. Louis	4 hr. 40 min.	23.22	2.80	2.00	28.02
St. Louis to Cleveland	3 hr. 40 min.	17.55	2.80		20.35

Other Expenses for the Month

Cleveland monthly storage	$ 30.00
Insurance at $1.00 per day	30.00
Cleaning airplane	10.00
Repair job at El Paso	4.65
Miscellaneous repairs to motor and refinish of propeller	125.00
Total cost for the month's operations	$443.52

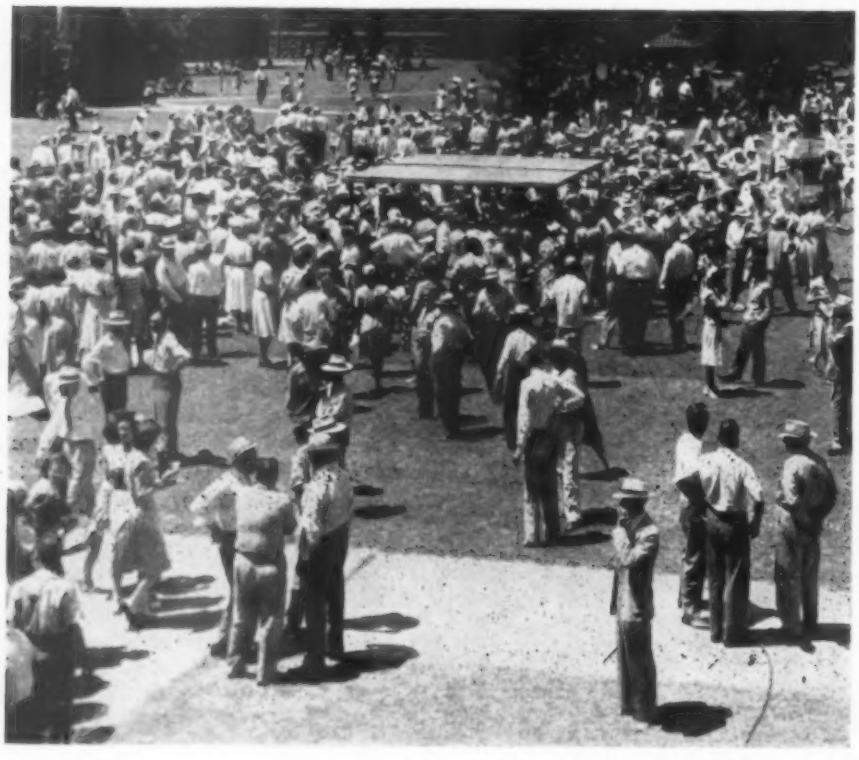


Over 250 lightplanes converged on Stillwater for the second annual meeting of Oklahoma's Flying Farmers. Several new models exhibited by manufacturers and numerous war surplus craft were among them —(Photo by James F. Laughead.)

Oklahoma's Flying Farmers

By VIDA FOSTER

FARM and Home Week at Oklahoma A. & M. College usually has been an event of local interest. But the event held the national spotlight last month when Oklahoma's Flying Farmers stepped in to use the occasion for a practical demonstration of the lightplane's usefulness to agriculture. Over 250 planes were gathered for the program, surpassing all expectations and pointing up the farmer's importance as a major factor in private flying.



Outdoor meetings, demonstrations and meetings featured the roundup. U. S. Secretary of Agriculture Clinton P. Anderson addressed the gathering at left.

An exhibition coyote hunt failed to bring back any pelts, but Henry Bomhoff, champion hunter of all, and his gunner wounded one. Al Guthrie, president of the Oklahoma Aviation Association, and operator of the Stillwater Flying Service, and Ray Goss of Minneapolis demonstrated use of the lightplane as a crop duster, and use of planes for other farm operations were discussed in a forum. Speakers included Secretary of Agriculture Clinton P. Anderson; Governor Robert S. Kerr; W. T. Piper, manufacturer; Freddie Deering, editor of *Farmer-Stockman;* Arthur I. Boreman, first vice president of the National Aero-

(Continued on page 60)

Commonwealth's 3-place Trimmer, powered by two Continental 85's, weight only 1,470 pounds empty. The original Trimmer has been flying for a year.

Twin-Engine Amphibian for Low-Price Market

Embodying new production methods, Kansas City - built amphibians will be manufactured in quantity for the $6,000 market.

VOLUME production of a new contender for the personal airplane market for lightweight amphibians is being readied in Kansas City by Commonwealth Aircraft, Inc., which expects to produce 1,000 planes during 1946. The new amphibian is a three-place plywood craft powered by two 85-hp. Continental engines and a tentative price of about $6,000 is planned by the company.

Called the "Trimmer" after its designer, Gilbert G. Trimmer of Baltimore, who built the prototype a year ago, the amphibian has made numerous test flights from Long Island, N. Y. Commonwealth, which was formerly Rearwin Aircraft and Engine Co., purchased the design from Allied Aviation Corp., of Baltimore.

Performance figures given by Commonwealth, based on recent test flights, include a 115-mph. cruising speed, 132-mph. maximum speed, 48-mph. landing speed, 600-mile cruising range, 1,470-lb. empty weight and 2,200-lb. gross weight. Its high wing has a span of thirty-five feet six inches, and the fuselage is twenty-four feet ten inches long. On wheels its height is eight feet seven inches. Take-off in 635 feet from water into a six-mile wind is claimed for the Trimmer.

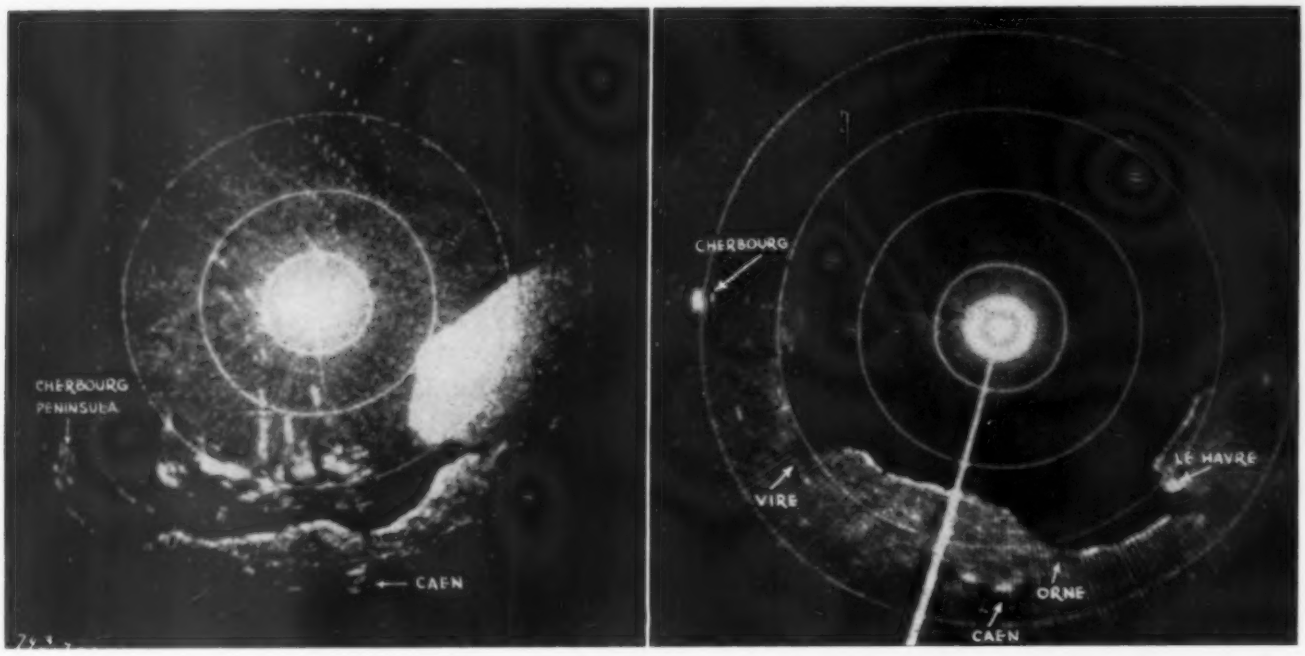
Although Commonwealth says the amphibian will "continue in level flight if one engine is cut out," preliminary specifications do not include controllable pitch propellers as standard equipment.

New but unspecified methods of construction and processing of plywood were said to account for the plane's low weight and high performance. Commonwealth was a volume producer of cargo gliders for the Army Air Forces during the war, and manufactured parts and assemblies for other aircraft companies.

Standard equipment on the Trimmer will include dual controls, starters, a battery and lights in addition to the normal complement of instruments. The three seats — two up front and one behind them—can be made into comfortable bunks for two persons.

Production is scheduled to begin in November. The first year's production of 1,000 planes will include several hundred models of Commonwealth's 85-hp., two-place Skyranger landplane. In addition, Commonwealth plans to produce a four- or five-place amphibian based on the Trimmer design but powered by two 125-hp. engines. Extensive enlargement of the company's facilities is planned for the new production program. ★ ★ ★

Trimmer's retractable wheels afford ample clearance for beaching and land-base operations. Commonwealth will also market an 85-hp. two-place, side-by-side landplane, called the Skyranger. It will sell for about $2,500, according to the company.



Although hidden by solid overcast, Normandy's invasion coast appeared like this in radar scopes of U. S. bombers. Center white spot marks position of plane. Invasion fleet (left) can be detected in small blobs of light. Photo at right shows area prior to invasion. —(AAF Photos.)

Magic Eyes for Aviation

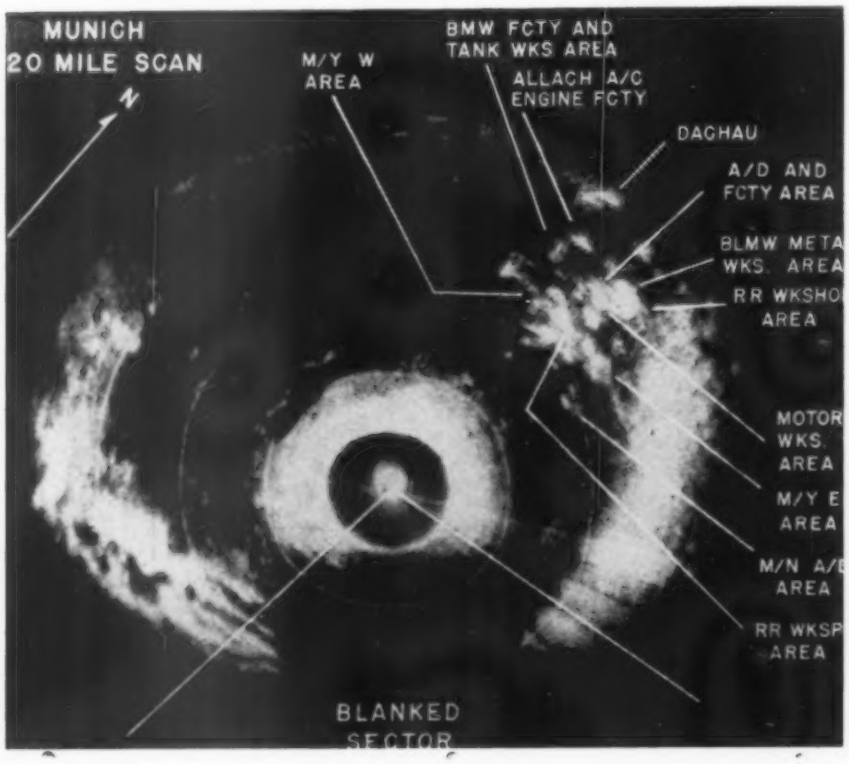
By WINSTON BALL, JR.

THINK of almost any tough problem in sighting, detecting and range finding and the chances are radar can solve it. It has accomplished more "impossible" feats, particularly in aviation, than can be enumerated in a lengthy conversation.

Up to now it has been keyed to the war, but radar is being rapidly applied to peacetime pursuits and the secrecy which hid its World War II functions has been lifted to give an idea of things to come.

Radar (coined from "radio detecting and ranging") encompasses almost 100 different kinds of devices. One already known in aviation is the remarkable terrain clearance altimeter. It gave birth to a couple of war sisters which aren't so well known — fighter planes carry around a gadget in their tails which rings a bell and flashes a cockpit light when an attacker slips up behind; installed in the plane's nose, it warns of approaching obstacles such as tall buildings and mountains. The kingpin of all is a highly complicated set which operates a television-like screen on which are recorded distant objects such as planes, ships, cities, islands and land masses, even though they may be from tens to hundreds of miles away and hidden by zero visibility. There are in-between kinds such as sets which automatically identify invisible planes or ships as friend or foe (German tanks and even individual soldiers were hunted down that way by fighter bombers).

But radar is an extremely complicated device, requiring considerable skill to operate and maintain. Even with experts around, radar sets don't



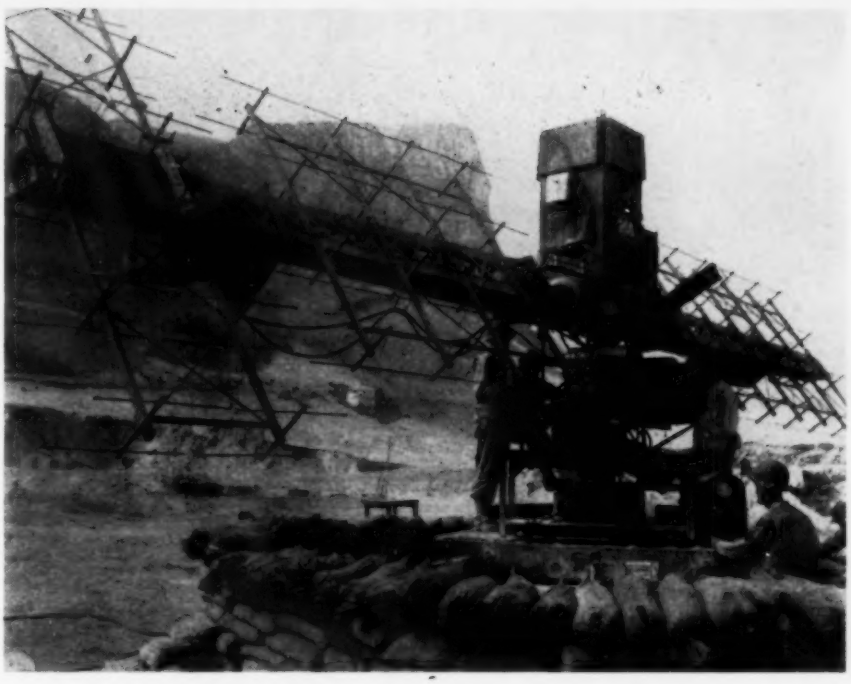
Munich appeared like this on 15th Air Force radar scopes. The markings are used to guide bombardiers.

always perform properly. U. S. planes once bombed neutral Switzerland by radar error.

To perform superhumanly, it transmits radio microwaves along a sharp beam and then recaptures them when they strike an object and bounce back as "echoes." The pattern they make and the time they require to travel to and from objects convey to the operator complete information concerning any target. In radar search, the antenna is rotated through all points of space. Heart of the receiver is the cathode ray tube—an electron "gun" which fires a stream of electrons against a fluorescent screen to register blobs of light. These moving blobs are interpreted to recognize the target (note accompanying photos of radar scopes).

Numerous and sundry applications of radar made it possible for "the Few" of the RAF to defeat the Luftwaffe's 1940 offensive against England and beat down the German submarine menace. On ships it enabled gunners to find and destroy enemy craft without visual sighting, and radar underlies the fleet's uncanny anti-aircraft accuracy. Radar bombing through solid overcast made possible all-weather air offensives and shortened the war. Ingenious radar beacons carried by paratroopers and glider troops guided supply drops with pinpoint accuracy.

Possibilities for radar applications to peacetime aviation are enormous. U. S. airlines are now taking steps to put the magic eye to work on the long-sought problem of all-weather, around-the-clock schedules. The Army has recorded countless blind landings in zero visibility under combat conditions, and planes and crews have been guided unerringly around uncharted peaks of the Himalayas.

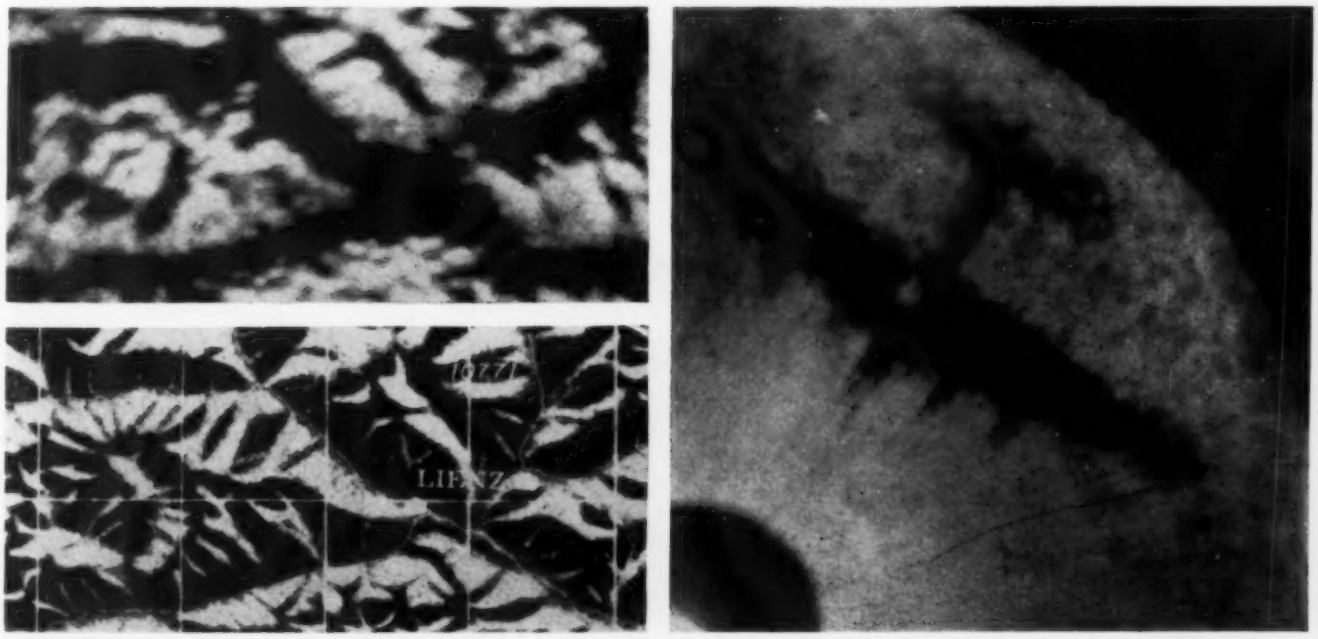


Ground sets using radar range from small "beacons" carried by paratroopers to huge contraptions like this "early warning" set used in Southern Italy to detect approaching German planes.
—(Signal Corps Photo from Western Electric.)

Air traffic controllers can scan the skies for miles around without rising from their chairs, greatly improving traffic separation.

The personal plane user will have to await development of lightweight, inexpensive radar sets. However, he may never need one, especially if he has an ordinary aircraft radio receiver. Ground stations can track him clear across the country, informing him periodically of his position and that of other aircraft in his vicinity. It's been done for fighter pilots on many occasions.

Right now radar is complex, heavy and expensive. But several billion dollars spent on its war development have broken down many of its mysteries through a tremendous volume of research, manufacturing, training and operation, thus advancing the possibilities of widespread economical use of simplified equipment. ★ ★ ★



Photos at left show how radar scopes "map" terrain below bombers. Marked photo is prepared radar map while that above shows same area on radar scope. Photo at right shows a friendly bomber as it appeared on a radar scope while passing below.

CONFESSIONS *of a Flight Instructor*

PART XI

By A. H. KNOUFF
Lt. A-V (T), USNR*

BE courteous. Be on your toes. These are the golden rules of safety in a traffic pattern. Your students may not know, or may forget, complicated details of local rules, but if you have made them courteous and alert they will not get into trouble.

A few days ago, I was about to start the base leg of an approach when I heard the tower urgently order an airliner to clear the runway by pulling onto the grass. This ship had just landed, and instead of rolling to an intersection and taxiing back along another runway as instructed, he turned around and was taxiing back on the runway in use. Meantime, the tower had cleared another airliner into take-off position, while a third was on his base leg and just about to turn on final. I decided the tower had enough to worry about getting the first pilot to clear the runway and, if that failed, warning pilot No. 3 to go around. So instead of continuing my approach, I made another short circle. Maybe I did waste two or three minutes, but also maybe I saved some unpleasant headlines. The tower needed the few seconds it would have taken for me to report on base leg and get instructions more than I needed the few minutes it took me to circle.

Not long ago I ran across the following comment on a crash where a pilot missed two approaches on a carrier and ran out of gas before he could make a third: "When in a tight spot . . . haste sometimes makes waste. A pilot in a hurry to get aboard should make a longer than normal stern approach to insure getting aboard on his first try." Apparently at least one military pilot agrees with me that accuracy is *not* among the advantages of a short approach.

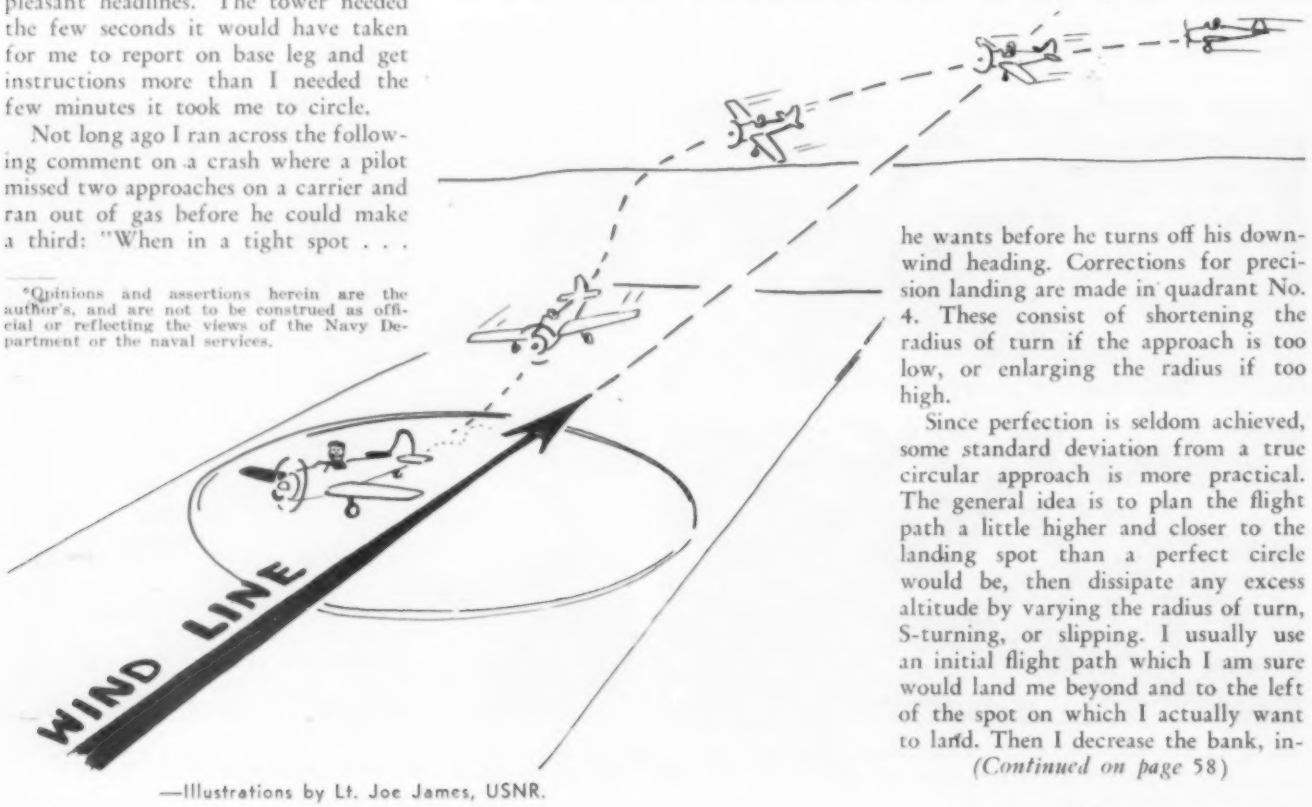
The circular approach is not necessarily a short approach. It may be thought of simply as a rectangular approach without the straight base leg. Its main advantage is that the downwind leg can be closer to the field. For this reason, I generally use it when flying fast aircraft whose speed makes the radius of turn very large in a moderate bank. A rectangular approach would require unnecessarily steep turns or a downwind leg so far out that it would be difficult to size up the field. However, the radius of the circle should always be large enough to keep slower lower aircraft in sight on the left of the nose. In low wing aircraft, the circular approach has the advantage of keeping this slower, lower traffic from being blocked out by the wing. But remind your students that faster or larger aircraft may sneak up on them behind the high outside wing. If there is so much traffic that the downwind leg must be made wide anyway, this advantage of the circular approach is lost and the radius might be so large that the pilot would not have a good view of the field during the approach. In such a case, the pilot might make a true rectangular approach, or a compromise between the two—a moderate initial turn followed by a flattened-out turn as a "base leg."

It is easy to see that the perfect circular approach pattern is the same as quadrant No. 3 and No. 4 in the circle-around-a-point diagram we talked about in June. Since the steepest bank will be at the most downwind point of the circle, the pilot must visualize the maximum degree of bank he wants before he turns off his downwind heading. Corrections for precision landing are made in quadrant No. 4. These consist of shortening the radius of turn if the approach is too low, or enlarging the radius if too high.

Since perfection is seldom achieved, some standard deviation from a true circular approach is more practical. The general idea is to plan the flight path a little higher and closer to the landing spot than a perfect circle would be, then dissipate any excess altitude by varying the radius of turn, S-turning, or slipping. I usually use an initial flight path which I am sure would land me beyond and to the left of the spot on which I actually want to land. Then I decrease the bank, in-

(Continued on page 58)

"The wind line is an imaginary line parallel with the wind direction. If you are trying to land on a small spot, it will be the line parallel to the wind through the spot. It is considered good technique not to cross the wind line more than once. One S-turn is all you should need to correct your errors and hit the spot."



—Illustrations by Lt. Joe James, USNR.

*Opinions and assertions herein are the author's, and are not to be construed as official or reflecting the views of the Navy Department or the naval services.

MODERN AIRPORTS

Volume III

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Number 1

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Florida's Super Airpark . . . a Dream Come True

Tops in deluxe service for the private flier, Miami Aviation Center's promotional ideas have hit the jackpot for a couple of sporting goods salesmen. They gave airmen what they wanted.

By BILL KEY

PRIVATE ownership of airparks is going to prove more and more desirable to aircraft service operators, in the opinion of R. E. Flynn, who with his partner, J. F. Keefe, owns and operates the Miami Aviation Center, a new development in the heart of the resort paradise of southern Florida.

Flynn and Keefe satisfied themselves five years ago that they wanted to own and control their own operation. They reached that conclusion after several years as distributors of Ercoupes in Ohio and Florida, and the handling of several lines of supplies and accessories. It was cemented after they had operated from the Cleveland Municipal Airport with a War Training Service program. And the wisdom of their course is now being demonstrated to them every time they operate a charter flight of any distance from Miami.

Take a recent trip made by Flynn from Miami to Dallas, Fort Worth and Wichita. It proved so salutary a lesson that a staff session was held on his return to make sure that the Miami Aviation Center's emphasis on service with a capital "S" was thoroughly understood. The Beech Aircraft Corporation field at Wichita was the only one on the whole route where adequate service was cheerfully and competently given, Flynn pointed out to the aviation center staff. On all the municipal fields, the itinerant flier had to find his own way to parking areas, arrange with disinterested gas truck attendants for replenishing of fuel supplies and hunt up overnight storage facilities. Lounge accommodations for the cross-country flier varied from fair to none at all.

Keefe and Flynn are something new in aviation. They are relatively new to the game, but have brought to it an unusual outlook based on their years of experience as salesmen of sporting goods — golf and tennis — equipment for the Wilson Sporting Goods Company.

For that reason their operation is of unusual interest and is already attracting nationwide attention from aviation people who believe that airparks can be made to stand on their own feet. Private ownership, these people feel, will prove far superior to public ownership of landing fields where conditions permit development of a wide range of activity.

And, strangely enough, Keefe and Flynn haven't been able to do it without opposition from public officials anxious to corral all aircraft operators on public fields, and from civic groups having their own ax to grind. Despite the evidence of their progress, and the obviously heavy investment in land, runways and equipment, they still find themselves occasionally labeled as "promoters."

The Miami Aviation Center managed to get started. Others have not been as lucky with the politicians. Carl Stengel, veteran Gainesville (Fla.) airport operator with a record of progressive airfield operation, and with substantial backing, has been stymied for almost a year in a similar project he projected near Miami. The Dade County commissioners, determined to start their own airpark development sometime in the future, have blocked Stengel's immediate development and forced him into court to obtain action. Typically, the politicos want to build their own airpark several miles farther from town. If Keefe and Flynn and Stengel are promoters, then aviation needs more promoters.

Attaining the Ideal

Here is what the Miami Aviation Center will be:

An airpark eight miles from the heart of Miami, with a display frontage of half-a-mile on U. S. Highway No. 1 where an average of 14,000 persons pass in automobiles and busses every twelve hours. No. 1 is the funnel for all resort travel from the north and middle west. The airpark is just off the airway from the north. It is within sight of one of the two major railroads. It has a mile frontage on Biscayne Bay, which separates Miami and Miami Beach.

An airpark with sales display hangars along the highway, both for planes and accessory manufactures.

An airpark country club, which already has more than 100 members over the country despite the fact that the clubhouse can't be started until building restrictions are lifted.

An airpark restaurant which few major airports can equal, operated by a nationally-known group.

An airpark filling station for both automobiles and planes—probably to be the first of the super-duper dual-service stations to be completed. It is already under contract, and should be completed this fall.

An airpark repair base with complete facilities to permit vacation fliers to have their major overhaul work done while they play.

An airpark apartment court, at which vacation and business pilots can bring their planes to within a few feet of where they will live.

An airpark subdivision, affording hangars built into homes, or individual runway hangars and home sites with yacht docking facilities either on a canal or on Biscayne Bay.

An airpark with seaplane landing facilities and a seaplane storage and repair base snuggled into a man-made lake just off Biscayne Bay.

An airpark with rental cars, and rental boats, always readily available. And with station wagon service.

All of this will be encompassed on 438 acres of land—438 acres that cost more, probably, than any other private airpark land in the country. That's partly responsible for the comprehensive plan Keefe and Flynn have laid down and are now putting into development. That type of Florida land comes high, and the development had to be all-inclusive to justify the expenditure.

It took "airmagination" and more than a little intestinal fortitude to visualize the eventual development.

But let's put it in the words of Keefe:

"We'd been operating in Ohio, and selling Ercoupes and accessories there and in Florida. We've seen the best in golf and tennis clubs. We'd seen the best, and the worst, in aviation facilities. We took the best, and made sure we would not have the worst, or even the bad, and when we put it all together, it just made sense.

"We looked for months for what we

felt was the ideal spot. We looked all through the South, because there are too many non-flying days up North, and finally found this location. It had everything we wanted — it is near the heart of town; it is on a main highway where thousands of people can see it and see the planes people want to sell; it has both land and water facilities; both highway and plane business made it attractive for filling station, restaurant, country club, apartment court and home building operation; you can count the number of completely non-flying days on one hand; and it is just off a major airway—no trouble to find."

There wasn't any trouble getting approval of the Civil Aeronautics Administration, or of the Indepartmental Air Traffic Control Board in Washington. Both groups told Keefe and Flynn that it was the first development of its scope to come before them.

There was opposition from some Miami groups, although the city officials of North Miami, the suburban township in which the airpark is situated, gave the developers all the co-operation possible. They still do. Some Miamians aren't quite as happy about it.

Twenty "T" Hangars Going In

Here is what has been done:

Between March and October of 1944, the palmettos had been grubbed out and swamplands filled in to provide two runways, one in the prevailing wind being 2,600 feet long and the other 2,000. Both are rock-fill with macadam surfacing newly completed. Both will be extended to 3,500 feet and a dual runway put in on the prevailing wind axis.

More than twenty individual "T" hangars—all possible under construction restrictions—are under contract and are being built. These are between what will be the dual runways and provision has been made there for an eventual 200 of these "T" hangars.

The filling station is under contract, and will be finished probably before winter.

Building restrictions held early construction to a small building 12 by 18 feet, in which all activity has, of necessity, been centered. Repair work is done in a nearby canvas-and-pipe nose hangar. Characteristically, space was sacrificed to appearance, so that the office structure is a well-built, always neat building despite the fact that you virtually have to wade through people to get across it.

Flight training activities have been built up to a point where they support all the current operations. Gasoline service people say more gasoline is being used at the field than at any other private airport on the east coast. More than thirty-five planes are based at the field, despite the lack, until recently, of hangars. As many as fifty planes have used the field on Sundays. Of the thirty-five planes based there, fourteen are owned by the Center and used in training and charter work. There were fifty-four dual student flights alone on a recent Sunday, and more than 200 active students keep their log books there.

Some 85 per cent of the students are service people stationed in Miami and in nearby Hollywood, Fort Lauderdale and Boca Raton. (One had been a prisoner of war in Germany, who allowed that he'd walked over the face of Europe and was damned if he'd do anything in this country but fly.)

Charges are standard for the area: $10 an hour dual, $7 solo, with a 10 per cent discount for servicemen, for the light ships; $18 and $15 for the PT's; and $12 and $10 for two Ercoupes. The Ercoupes, incidentally, are being used chiefly for flight training of older persons, this being done deliberately to prevent over-use of the planes. Until recently, only one was based there, but with another recently acquired and probably new deliveries coming along, they will be put into more general training service at standard light plane rates. Three men of more than fifty have recently soloed in them—two of them with sons in the AAF.

Transient business has been growing by leaps and bounds — and every transient flier gets the kind of service pilots have been dreaming about. They get the works, for the simple reason that it is that kind of service the Center is being built around. The owners get the transient treatment over the country themselves, and it just doesn't happen at the Center. Strangers at the field get the same kind of attention, whether they are interested in buying a plane, a lesson, or just wanting a look at an airplane.

Homes with Hangars

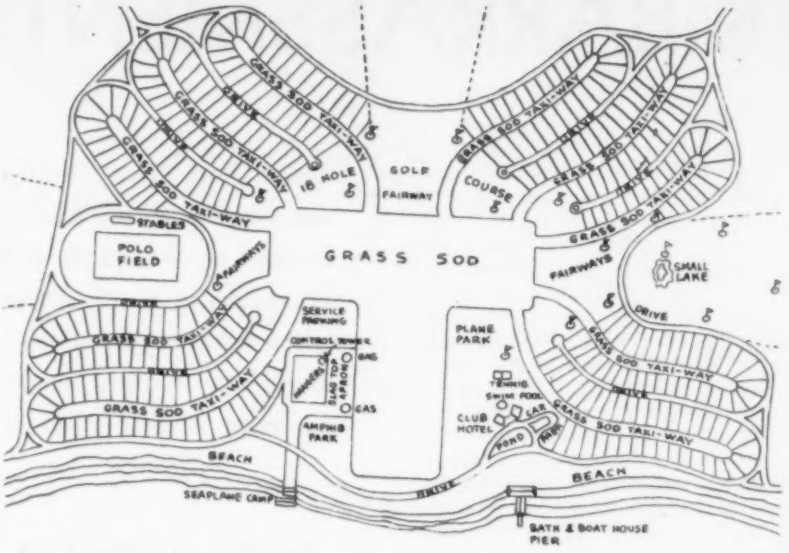
Fourteen lots in the first home subdivision section have been sold, and homes will be built as soon as restrictions are lifted. The lots are not cheap, although they are reasonable for Miami—they cost $2,000 for a lot 75 by 150 feet. Runways and taxiways, incidentally, are dedicated to perpetual use of home owners and country club members.

Making the first project work isn't easy. It has meant hard labor. There has been opposition from those who want air service all wrapped up under the politicians' fingers. Wartime conditions have forced delays.

But the Center is attracting nationwide attention. It is paying its own way now. Airpark operators from many states have visited the Center to find out about its operation with the idea of duplicating it in part or in whole (and Keefe and Flynn are glad to open up their plans for them). And since imitation is the sincerest form of flattery, it is proving that the air-magination of Keefe and Flynn has been sound vision.

It also proves that new comers to aviation have much to offer that will bear watching — and copying. ★ ★ ★

An Air Forces Officer's Postwar Plan



Army Air Forces men overseas have done a lot of planning for postwar aviation projects of their own. Here's a sketch of an elaborate community airpark drafted in England by Captain H. C. (Huzz) Mueller, who was former manager of the Orlando Municipal Airport in Florida. Its 3,000-ft. sod runways are surrounded by scores of homesite lots, each having a taxiway. With them go all the recreational facilities of a resort community, including a beach, a swimming pool, a polo field, tennis courts, club hotel, and golf course. Capt. Mueller is now in Berlin, but hopes to be home soon to put his airpark ideas into action.

EMBARRASSMENT OF RICHES

Army and Navy fields, too large for civil needs, began as bargains but are proving burdensome when taken over by communities. Costly maintenance is the joker in the deal.

By JOHN H. FREDERICK

A STRANGE paradox is developing in many parts of the country, particularly in the Southwest. On the one hand we have a tremendous demand for airports at smaller towns, with State and Federal aid programs being proposed and developed. On the other hand we have many small towns really embarrassed by finding themselves with airports far beyond their needs or fondest dreams of a few years ago. This strange situation comes about because both Army and Navy fields are being turned back to the towns which bought the land on which they were constructed.

A few years ago Army and Navy officials suddenly appeared in many a small-town contacting local officials with the proposition that if the town or county would buy the necessary land, the government would construct an airport with all the necessary runways and other facilities for the use of either Army or Navy or both. Then when no longer required for military purposes, the airport, improvements and all, would be turned over to the unit of local government buying the land in the first place. This looked pretty fine to many a community. Besides the natural desire of everyone to help the war effort there was a feeling that here was a good way to get an airport at little cost. "Just buy the land, the government puts in all runways and other improvements and when the war is over the airport is ours." Arguments like that put over many a local bond issue for buying the land selected by the Army or Navy officials—usually the best agricultural land in the locality.

The Army and Navy under CAA supervision built the airports. They were well-built for dispersion fields around tactical bases, to increase the number of places available for interceptor aircraft in coastal areas, as training bases and the like. All together between 800 and 1,000 of these airports were actually constructed at a cost of well over two billion dollars. Some of them were never used for what they were first intended due to changes in the war program, some were hardly used at all, but all have been maintained in first-class shape.

Now the Army and the Navy are beginning to live up to the second part of the bargain. Many of these installations are no longer needed by the armed services and the time has come to turn them over to the communities supplying the land on which they have been developed. Therefore the paradox. Many of these communities are very much embarrassed because they don't know what to do with as big an airport as they suddenly find themselves supplied with or which they can see coming to them. They need an airpark, perhaps, or a Class II airport, but certainly not a Class III.

Maintenance Is Costly

When cities and counties look at what they agreed to do in their excess of patriotism, or perhaps in their zeal to acquire an airport for "nothing", they discover that there are certain obligations which have been assumed. In nearly all the agreements between the Federal government and local communities involving airport construction and development, the Federal interest in the future of these installations is protected. When the agreement was made, the city or county, in consideration of the development of the airport by the Federal authorities, agreed to maintain and operate the airport when given title to it. They also agreed to make the airport facilities available to the public without discrimination and not to grant exclusive rights to its use; to prevent obstruction to its approaches; and not to dispose of it except to another agency capable of assuming the obligations of the agreement. Each city or county further agreed that during times of national emergency, airports now handed over to them will be leased to the government for a nominal consideration.

So many a small town is, or will find itself, in the position of Conroe, Texas, which recently realized an embarrassment of riches. It had just received a million dollar airport from the Navy after having spent about $75,000 in acquiring the land some years ago. Right away, Montgomery County, of which Conroe is the county seat, had to appropriate $25,000 for maintenance—a third of what their investment had been so far in the airport—and this is just the start. The "gift" airport is very much bigger than Conroe or Montgomery County needs. Such an airport in such a location probably will never pay its way commercially; it may never be self-sustaining. Right now it looks as if Montgomery County was about $925,000 ahead when the physical value of the airport plant is considered, but what to do with it? How to maintain such a white elephant without excessive burden on taxpayers?

Another town in Texas found itself in somewhat the same position as Conroe but even more embarrassing. An airport was turned over to this town by the Army but before any steps could be taken to provide for maintenance, management or anything else a cloudburst came along and washed runways and did other damage to the tune of about $75,000. This sum was much more than the town had intended spending on this airport for five years, more than the land cost them in the beginning and more than they had available. What finally happened is not known to the writer but the airport was unsafe to use until quite an additional sum had been spent on it by someone.

"We've just got an airport ten times bigger than we need, what shall we do with it?" is going to be the cry of several hundred communities in the not far distant future. Needless to say, there is no quick answer. There is no answer in "ten easy lessons" either.

A small town with an airport larger than it needs is really in a tough spot and the agreement with the Federal government under which they acquired it ties their hands in some respects. It is impossible under this agreement to lease the airport exclusively to a commercial operator or an aircraft service organization. Some arrangement might be worked out on a non-exclusive basis but not many small towns can support more than one aircraft service operator and few operators want to invest time and money in a community building up an airport when someone can move in at any time. The community, moreover, has agreed to maintain the airport and make it available to the public which will cost money. Then there is rather of a "joker" in these agreements in that the community has agreed to prevent obstructions to the airport approaches, which may mean buying up properties, going through zoning operations and the like. The community can't sell the airport to

(Continued on page 52)

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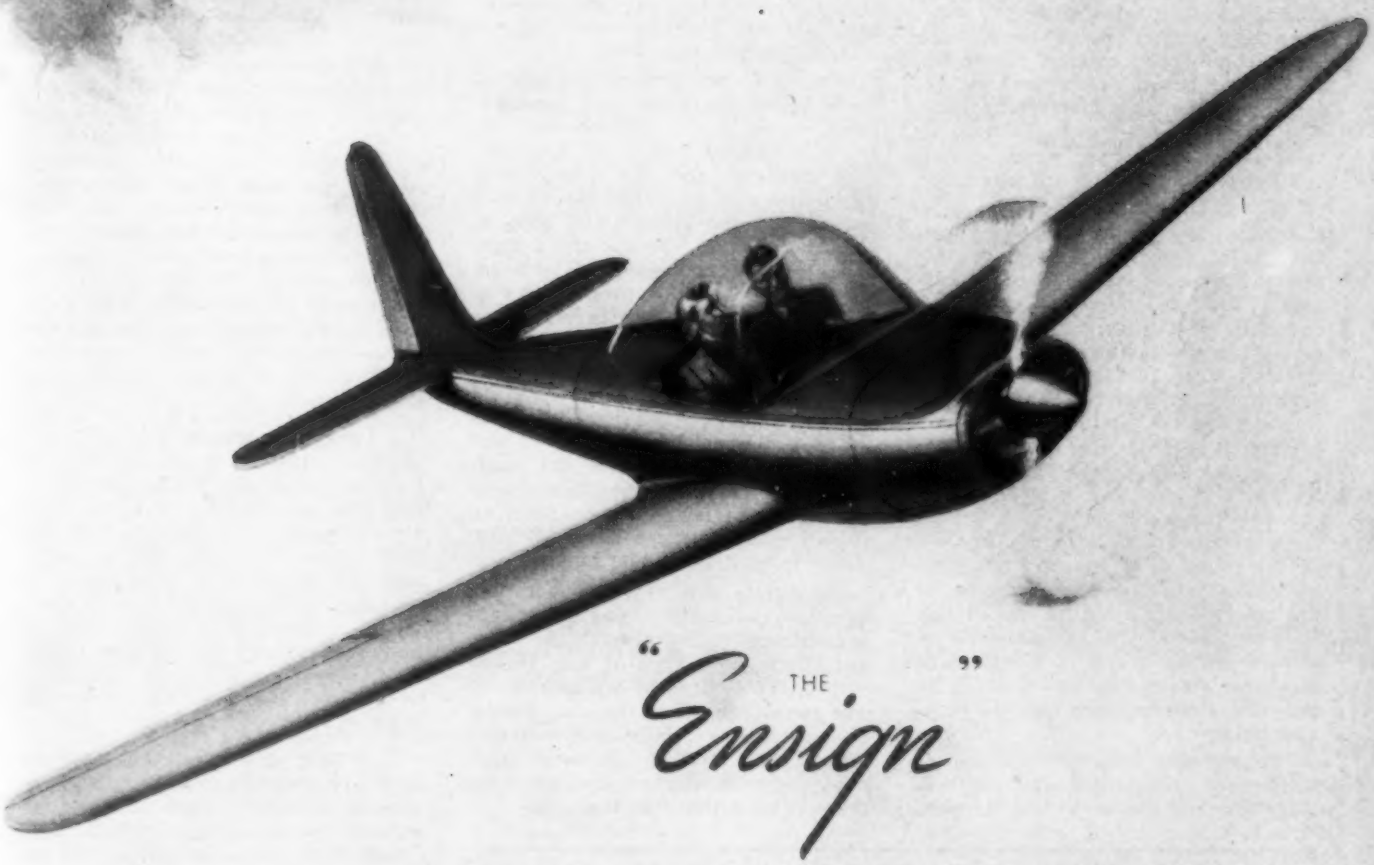

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Airport Planning for Private Flying

PART IV—CONCLUSION

A realistic understanding of the community airport is essential for satisfactory operation. Here are practical suggestions for a plan of action.

TO some the airport is a place of recreation for one group of citizens. To visitors and local business men, it is an aerial highway entrance to the town—the only connecting link between the town and the rapidly developing transportation system of the skies. To transient fliers, some bent on business and some on pleasure, the airport is a filling station or garage, where they can stop, refuel, relax, and then continue their journey or store their plane for the night and explore the town. To another group, the airport is the only place available for certain business enterprises such as flight schools, aviation repair shops, plane rental and charter service, and airplane sales centers.

An airport is composed of two distinct parts, namely, the **landing area** and the **building area.** The **landing area** is the public area and should be operated for the benefit of the community, in the same manner that the streets, parks, library, and fire department are operated. The cost of constructing the landing area cannot be amortized by landing area charges, and most cities consider themselves fortunate if they can secure enough revenue from the entire airport to meet the operational expense. In view of the absence of taxation of commercial aviation that contributes to the maintenance of airports, similar to revenue for the maintenance of streets and highways, it is customary to charge commercial aviation for its pro-rata share of the landing area maintenance.

The **building area** is the business address of individuals and corporations doing business at the airport, and it is customary to rent or lease both land and building space for exclusive usage in this area.

There are two generally approved methods of operation and management, namely: (1) management by the municipality with a full time airport manager, and (2) management by an operator who conducts his own business at the airport and acts as airport manager. There is also a third method that has been used by some cities, whereby the entire airport is leased exclusively to an individual or corporation for a long term of years at a small annual rental and with little or no community benefit.

Management by the municipality is the most desirable method for the reason that it gives the owner the maximum control over its property and over the services rendered there. Such an airport manager must be a good promoter as well as a good manager.

To initiate this type of operation, it will be necessary to pay a manager approximately $300 a month or more, and if the right type of man is employed, the returns to the community will more than offset the cost. Nevertheless, only a relatively few public officials are willing to incur such expense, especially at a time when there is no activity at the airport.

Some public officials, after learning that most airports are operated at a loss during the early years of their existence, have become frantic and then decided to lease the airport to anyone willing to assume the responsibility for the maintenance. The airport was subsequently leased to an individual or corporation for $1.00 a year for ten or twenty years, and the public officials were prone to forget that the airport was ever built. This lazy way out requires no vision or initiative on the part of officials and has the following disadvantages:

1. **Exclusive Features.** Public money has been spent to grant exclusive privileges to an individual. If the operator has the agency for one make of airplane, he can and often does prohibit the sale of any other competitive type at the airport, and that means in the town. The same public officials would not consider leasing city property next to the City Hall to a Chevrolet or Ford dealer, who would have the right to prohibit the sale and demonstration of other competitive type cars in that town for ten or twenty years.

2. **Poor Maintenance.** The operator's principal business is the operation of a flying school and related activities, and the maintenance of the landing area is merely a means to that end. It is human nature for him to economize and to spend as little money on maintenance as possible. When visitors fly in to the airport and see the unkept and shaggy appearance of the field, they receive a poor impression of the town because it is a Municipal Airport.

3. **Wrong Attitude.** The merchandising of the community and the progress of aviation in that area are left entirely to this one individual. If he is ambitious and enterprising, well and good, but if he is content to live on half a loaf, aviation is stifled in the community for the duration of the lease.

4. **Results.** The result of this type of lease is that after a few years, the lessee has either gone to seed or has developed a very prosperous business. In either case, the town is the loser. In the first instance, the airport is not a credit to the town, aviation is retarded, and the municipal officials can do nothing about it. In the latter instance, the lessee is making an excellent profit on facilities furnished by

Building Airport Revenues and Patronage

BEGINNING next month, SOUTHERN FLIGHT will publish in Modern Airports a noteworthy series of authoritative articles to guide and assist communities and airport managers with their airport building, operation and management, and expansion. They have been prepared by Leigh C. Fisher, selected last year by Pat Moore, Secretary-Treasurer of the American Association of Airport Executives, to enter the nation's first recognized college course in airport management at the University of Texas. On completing the course in June, 1945, he was employed by Giffels & Vallet, Inc., well-known Detroit engineering firm, in its Airport Division, heading up a new department to assist airport management in revenues, financing and operation. None of his articles in Modern Airports is intended to be a technical discourse on airport planning or designing. Instead they will incorporate practical and timely discussions outlining an ideal system whereby aviation, airport and community interests can meet their obligations for better and more profitable airports.

the taxpayers, and yet the town only receives a dollar a year.

The operator-manager type of contract is becoming increasingly popular in small towns because it is an effort to avoid the expense of a full-time manager and still avoid the pitfalls of an exclusive lease. There is no definite pattern of contracts since each agreement is the result of negotiations and the conditions at each airport are usually different. The following suggestions may be of assistance to those preparing this type of contract:

1. **Type Agreement.** A contract is preferable to a lease for the reason that a lease implies an estate in the airport property and certain rights and control might be granted to the operator that were not intended. The operator is granted joint use of the landing area and exclusive use of specified areas or buildings located within the building area. He also acts in the capacity of airport manager and performs certain duties for the owner.

2. **Landing Area.** The town should assume the responsibility for the maintenance of the landing area and all facilities that are available to the general public. This maintenance expense can be offset partially by the farming of all portions of the landing area not necessary for the use of aircraft. It is not customary to charge non-commercial plane owners for the use of the landing area, but local commercial operators that profit from the use of the airport can be assessed landing area charges. The fairest method would be based upon the number of landings and the weight of the plane, but such a system is cumbersome. Several cities have established a schedule of charges for commercial usage based upon the number of planes based at the field each month, and a few cities have set a flat landing area charge. One town in New Mexico charges each operator $400 a year. Such a schedule of charges not only brings in reveune to the town, but also protects the operator from unfair competition by operators who wish to operate only on week-ends.

3. **Building and Facilities.** An airport is nothing but a landing field until it has certain minimum servicing facilities, such as a hangar, office, rest rooms, water, lights, telephone, and gasoline and oil equipment. The airport cannot be operated satisfactorily without these facilities, and therefore they should be constructed as soon as possible.

All buildings and hangars should be owned by the municipality. If funds are lacking and they are constructed by the operator or others, the town should retain the right to approve the type of construction and location, and to purchase the buildings at a definite price, less a stated rate of depreciation. Some structures have been built at airports by operators with the agreement that they will revert to the owner at the end of ten or more years, depending upon the quality of construction. Here again, the town loses a certain degree of control during the amortization period, if the buildings are built by others.

Office rental in permanent type buildings is usually based upon similar accommodations on Main Street. Hangar rentals vary with the law of supply and demand, but it is good business to keep rentals low in order to stimulate more activity at the airport.

4. **Gasoline.** Oil companies will install gasoline equipment at the airport on a loan basis. In other words, you can use the equipment as long as you use the products of that particular company. The retail price of aviation gasoline often ranges from eight to ten cents a gallon above the purchase price. Most small airports do well to sell 1,000 gallons of gasoline a month, so it is apparent that a considerable volume of gasoline business must be generated before a full-time employe is justified for such duties. The operator should not be expected to share the gasoline profits with the owner until the volume reaches 1,500 gallons a month.

5. **Salary of Manager.** The operator, as airport manager, should post and enforce a set of field rules, assist customers and visitors in securing transportation to town and possibly to secure hotel accommodations, maintain a record of revenues and field activities, and submit a monthly report to the town officials. For this work, he should be paid a salary, mutually agreed upon. During the first year, it is suggested that the salary as manager be approximately the amount charged for the use of the landing area, hangar and office.

6. **Term of Contract.** It is recommended that the first contract be limited to one year. At the end of that period, the operator will have a fair idea of potential business, revenue and expense; and the muncipal officials likewise will have a better understanding of the problems involved, the cost of maintenance, and the potential revenue. Both parties will then be in a better position to negotiate a fair contract for a longer period of time.

7. **Warning.** When business on the field justifies the establishment of two operators, the operator-management basis should be abandoned and a full-time manager employed. It is too difficult to maintain harmony on an airport where one operator has certain advantages and authority over the other. ★ ★ ★

CAN AIRPORTS PAY THEIR WAY?

Have airport investments, as a general rule, paid out? Lowell H. Swenson, manager of the National Aeronautic Association, told the NAA's Third Joint Airport Users' Conference last month in Washington they have not, and should not be expected to.

"In 1939, the last year for which statistics are available, and also the last normal pre-war year, total revenue from all airports was only $2,730,792," Swenson said. "Hangar and storage fees, and the sale of gas and oil, constituted the bulk—45 per cent of that revenue. Total expenditures for that year were $4,634,070—43 per cent for salaries. These expenditures did not include any amortization on bonds issued to finance airport construction. In fact, I have never heard of any airport revenue amortizing bond issues. In my opinion it is impossible to amortize airport construction out of airport operating revenue, or out of gasoline taxes on aviation fuel. I hope airport construction will never be contingent upon any such device. It just won't work.

"It hasn't worked for roads. From 1929 through 1942, $13,371,000,000 was spent on building roads, and $8,263,000,000 was spent on maintenance. During that period, state gasoline taxes totalled $9,358,000,000. Federal gasoline taxes were $3,918,922,952. Gasoline taxes levied on highway use have been nowhere near enough to amortize the investment in public roads and still furnish the states' maintenance funds. But the highway program has created a new layer of wealth in this country—the automobile industry, the petroleum industry, the tire industry, and others. The airport program, similarly, will create a new layer of wealth.

"We know now what the public roads have done, what the automobile has done to our economy and our existence. The automobile very probably has reached the maximum of its utilization. So at this point, its and the roads' analogy with aviation and airports must end. Our airport program must be founded not on financial principles alone, but on faith—and optimism. The billion dollars which might be spent by the Federal government and project sponsors if legislation before Congress is enacted is an awful lot of money—in business. But it is very, very little in the destiny of the nation."

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AIRPORT MERCHANDISING

By DUDLEY M. STEELE
Former Manager, Lockheed Air Terminal

LAST month we discussed airport maintenance and its relation to overall profits. We will continue this subject now by taking up the various units comprising our Maintenance Department, describing the function of each in detail.

Stockroom

We maintain an airport stock which is based on the total cost of our facilities. In the case of our electrical stock, it runs 7 per cent of the total installation.

We use a perpetual inventory whereby our books show at all times the exact amount of stock on the shelves. Each part or piece of apparatus is given a Lockheed Air Terminal number which is used in place of the manufacturer's number, enabling us to inventory our stock with accuracy and speed. Through this system we have eliminated many trips to vendors which cost time and mileage on our trucks. This seems rather trivial, but it amounts to several hundred dollars a year.

All tools are kept in the stockroom and are controlled by the stockkeeper. They are released from the stockroom by the use of the tool check system, which eliminates losses, and, further, it is most essential that no tools be left out overnight, even though it is necessary to check them out again in the morning.

Drafting

This department is constantly busy entering on our master set of prints all new installations, such as underground water, gas and electrical lines, or any other facilities installed. This department also handles surveying for installations of new utilities or additional installations of taxiways and runways.

Through the past years we have developed an excellent system for filing blue prints, whereby it is possible to locate a print within a few seconds. This is an important item.

Electrical

The electrical department is one of the most important. The safety of air travel in and out of the terminal depends a great deal on the maintenance and upkeep of the contact lights, obstruction lights and operation of the radios. The radios themselves are owned and operated by the various airlines but the power to maintain these radios is governed strictly by this department. Our obstruction lights and contact lights are of a 2,500-volt series type system, operating at 6.6 amperes.

All personnel is subject to twenty-four-hour call, although through the follow-up system, which has been previously mentioned, we have eliminated these calls to practically nil.

We maintain an electrical work shop which has various pieces of testing equipment, such as the main test board, growler for testing armatures, clamp-on ammeter (which is used for many purposes, including determining of loads of various circuits) volt meter, and one of the most important of our instruments, a combination weed-stone-bridge and vibro-test. This one piece of equipment cost us $275 and has saved better than $700 in the last eleven months. This piece of equipment is used mainly for locating open circuits or grounds in our series system and other pieces of equipment.

A daily record is kept on every operation performed and periodically a check is made which determines the cost of this particular department.

Upon completion of any new installation, it is the duty of the electrical superintendent to provide our drafting department with certain information pertaining to a new installation, such as the sizes of conduit, wire, location of any underground lines in relation to some positive point, voltage rating, and load of the circuit. In turn, this information is placed on the master set of prints for future use.

All air navigation lights are remote controlled from the tower. The tower itself is operated by the Civil Aeronautics Administration.

Once each year all motors are detached from their equipment, brought to the shop, and completely overhauled and reinstalled, which has eliminated all burn-ups. The portable electric fans are picked up after the summer season, thoroughly overhauled and cleaned, wrapped in paper, and placed in storage. At the beginning of warm weather, the fans are taken from storage, oiled, and placed in operation in the various offices.

Electrical fixtures throughout the entire terminal are cleaned twice a month. This work is done by our electrical staff for the reason that while in the cleaning process they can also inspect the fixture for defective parts or burned out bulbs, in which case repair is also made. This one operation saves many a return trip.

We maintain our own master board, which operates at 2,500 volts. Primary feeders are run underground from the switch house to vaults located adjacent to the various buildings. Transformers are installed in these vaults and feeds extended from the secondary side to the various switch rooms within the buildings themselves.

This department also maintains the public address system, which requires expert service. Many off-duty hours are spent on research to improve this system and to keep the sound level as nearly perfect as possible.

The maintenance of air conditioning and refrigeration is divided between the electrical and plumbing departments respectively.

Plumbing (Air-Conditioning & Refrigeration)

Through the follow-up system this department maintains all plumbing, refrigeration and air conditioning equipment. Its personnel must be thoroughly trained in the operations.

The increase in air travel has offered this department many problems. Maintenance of the equipment in our food and service department has increased in proportion to the additional meals served. Many parts for repair purposes have been made by our personnel, inasmuch as it has been impossible to purchase them during the war. The plumbing shop is well stocked with its own tools and equipment. Through the use of its portable steam cleaning unit tremendous savings in time have been effected. We use this unit for cleaning all kitchen equipment, except refrigerators and ranges; and it is also used to thoroughly clean all garbage cans, as well as the garbage room itself.

Many savings have been made over the past years through constant checking. For example, we have saved $40 a month in the purchase of salt for our soft water equipment. Six hundred dollars were saved in the proper arranging of our hot water system, in accordance with its use.

Periodic clean-outs of lateral and main sewer-lines creates a nice saving. Breakdowns cost money, and often have to be repaired at overtime rates.

The exhaust ducts from the kitchens are chemically treated at a very small cost. Prior to this treatment we were spending $720 per year to clean them. Routine maintenance of our restroom facilities and use of standard-type disinfectants possibly does not show an actual saving but does create goodwill.

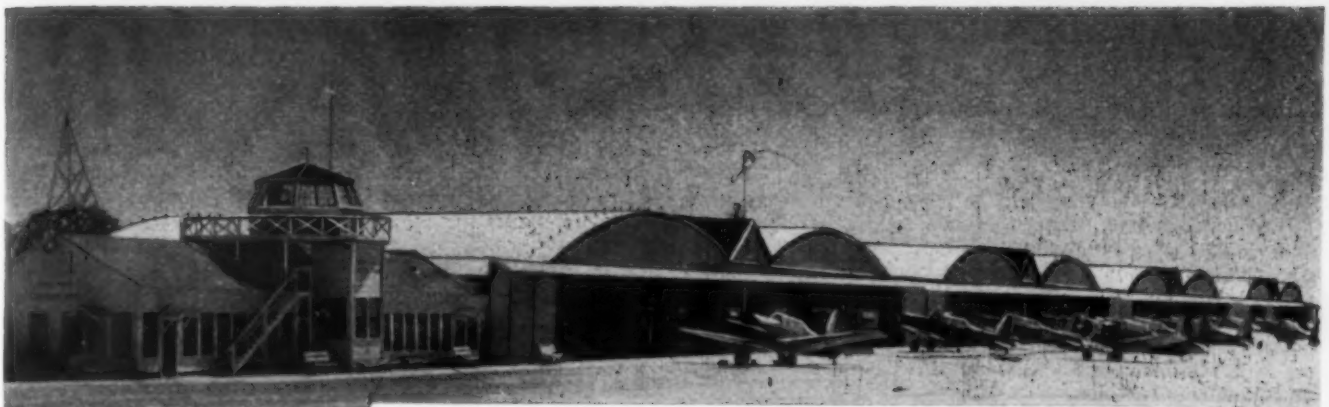
Paint Department

Our paint shop is located in a fireproof building made of poured concrete and brick. It is thoroughly ventilated to reduce fire hazards. Our painters are constantly kept busy on routine painting, which is controlled

(Continued on page 54)

Steele Leaves Lockheed

After serving as manager of the Lockheed Air Terminal at Burbank, Calif., for eight years, Dudley M. Steele has resigned to spend full time with the Acme Spring Sash Balance Company, of which he is part owner. Pending appointment of a permanent successor, Robert Burns, assistant manager, is directing the Terminal.



(Above) Photo shows STAR Hangars at Hicks Field, Fort Worth, Texas. Major Long—owner.

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(Below) Photo shows STAR Hangar at Darr School of Aviation, Ponca City, Oklahoma.

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EMBARRASSMENT

(Continued from page 44)

anyone except some other government agency, which means a county if this is a city airport or state or a city if it is a county airport.

Suggestions for Success

What may happen is that the states may have to take over the maintenance on many a small town or county airport in order to protect the billions of dollars already invested in improvements and handed over by the Army or Navy. These airports should not be allowed to just rot away and disintegrate. That is just what unused and unmaintained runways do. You can't let an airport "lie idle". But few states have any facilities for undertaking such work, so it is still up to the local communities originally purchasing the land and now the recipients of the governmental "bounty".

Here are a few suggestions on what to do with an airport.

1. Look at in a practical way. If too large for the city now or for some time to come, simply decide which runways and taxiways, and buildings to keep and maintain and let the rest go. To be sure, the community has agreed to maintain the field but this does not necessarily mean that it must be maintained exactly as handed over. It means that the airport must be usable, must be safe, must get aircraft in and out safely, must not be leased exclusively to any one person, must be available to the public and for the Army and Navy in emergencies. Keep the land for possible future use but maintain just what is needed in the way of improvements—let the rest go back to grass or crops.

2. Don't expect the airport to pay for itself. Airports operated to fit the needs of a community, designed for that community with provisions for future expansion can be made self-supporting. But not the white-elephant airports. They start off with three strikes against them as far as making ends meet is concerned. Decide that the airport is a public institution just like the streets or the courthouse square.

3. Set up a budget for airport operation and maintenance and provide the funds, no matter how small to start. Set up an accounting system.

4. Provide for responsibility of management either through a paid manager if the community can afford one, through a non-exclusive leasing arrangement with a combined aircraft service operator-manager, or through an aviation commission or Chamber of Commerce group which will be responsible to the city or county government. No airport can run itself.

5. Do everything possible to encourage private flying in the area served by the airport. Keep things neat and clean. Make the airport a place you can be proud of. Carry over the Army or Navy "spit and polish". Don't charge too high hangar rentals. Keep the sale of aviation gasoline and oil for the benefit of the airport if possible.

6. Encourage and patronize any commercial, feeder or other airline that wants to use the airport and don't charge them too high a fee for its use either.

7. Above all, just because a large airport is handed to a small town, don't get big airport ideas. An airport, no matter how long the runways, is never any bigger than the community it serves. ★ ★ ★

THOS. D. BROAD
ARCHITECT
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Lightplane Storage Averages $15 Monthly

It costs about $15 a month on the average to rent storage space for a lightplane in America, according to the Aeronautical Training Society, following a national survey of operators of typical standard sales and service bases in cities from New York to places of 5,000 population. The survey found that it cost a little more at fields near major cities than in smaller communities. Also, it costs more in the North than in the South, according to ATS.

Hangar Space for 400 Planes Sought in Pontiac Airport Plan

The city of Pontiac, Michigan, is planning to expand its present airport facilities to provide service and hangar space for 300 to 400 private planes, and a contract to design the expansion of the Pontiac City Airport has been awarded the airport division of Giffels & Vallet, Inc., of Detroit. The Michigan Board of Aeronautics instituted the study at Pontiac. The project brings to eighty-six the number of airports in North, Central and South America which Giffels & Vallet, Inc., have developed or assisted in developing.

Air-Powered Pump Prevents Hangar Fires

Harman Rotary Pump Company, Los Angeles, Calif., is manufacturing an air-powered portable pumping unit for transfer of all liquids in aircraft hangars. The air motor eliminates the possibility of explosion or fire that is present where gasoline engine or electric motor power is used. It operates on eighty to 100 lb. air pressure and requires forty-eight CFM at full throttle. The pump is a rotary vane type.

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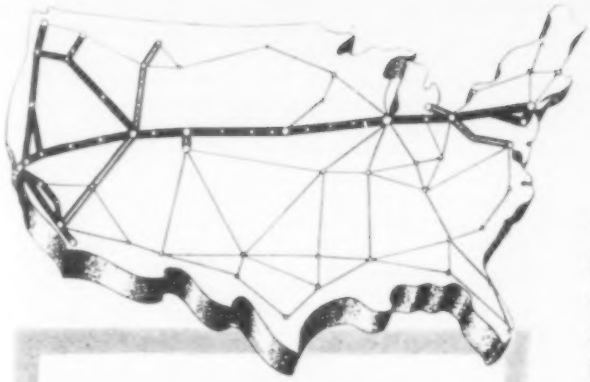

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NEW 100-TON AIRPORT ROLLER being used on a project at Santa Monica, Calif., was inspected by CAA Administrator T. P. Wright on his recent visit to 6th Region headquarters. Left to right are W. McKinley Howard, assistant district airport engineer; R. W. F. (Bob) Schmidt, superintendent of airports; Administrator Wright; H. A. Hook, regional administrator; A. S. Koch of Washington, assistant CAA administrator; S. S. Boggs, senior airport engineer, and C. B. Worthley, airport lighting engineer. (CAA Photo.)

Noise, Shabby Fields Peril Public Support

Low flying and unsightly airports may cost aviation the support of the public for the needed airport construction program, according to John H. Geisse, assistant to the administrator of civil aeronautics for personal flying. He recommended that pilots give up buzzing houses and avoid practice flying in areas where it may be disturbing. He pointed out that noise and uncleanliness of some airports has become associated in the public mind with all airports, and if the practices are continued, the public may reject needed airport planning.

Report on Snow Removal by Heat

A system for melting away snow from sidewalks, driveways, streets and perhaps taxiways has been developed by A. M. Byers Company, Pittsburgh. The application of steam through pipes under the places to be removed of snow is the principle of the Byers' arrangement. Flans are being made for installing the pipe system under airport taxiways. The system has been tried successfully in other cases. The development is the study of "Case Study No. 4," now available from Byers.

AIRPORT MERCHANDISING

(Continued from page 50)

by our follow-up system. Costs of material and labor are kept on every job which gives us an exact figure for estimating purposes.

Normal office painting at the present day cost of materials and labor runs approximately 4.7 cents per square foot for the first coat, the second coat costing only 4.1 cents. Setting up of scaffolding and placing drop cloths increases the cost of the first coat.

A file system is kept on all paint jobs showing when the various offices, buildings, or hangars were last painted. From this information we are able to determine the total cost of certain locations over a period of years. These costs are definitely governed by the number of employes working in certain offices and the painting maintenance of the administration building depends on the amount of air travelers passing through the terminal.

All pieces of equipment made by our cabinet shop are finished by our painters, which adds to our general savings. Repainting of signs throughout the terminal is handled by this department at a 50 per cent saving.

We have one portable hand air compressor with spray paint gun and ample hose, which is used for all small jobs. We also have a large portable gasoline compressor, compression tank, and spray paint gun which is used for the painting of parking lot lines, guide lines for roads, numbers, chevrons and center lines on the runways. This piece of equipment paid for itself in one year.

Refinishing of our dining room furniture, tables and chairs, is done by this department with a nice saving. The usual practice for janitorial service in restaurant facilities is to place the chairs on top of the tables. When this was stopped some years ago our refinishing of the table tops and chairs was reduced by half.

Office equipment, painting of our various pieces of automotive equipment and blast fences are also painted by this department.

That's all for now. See you next month for concluding article on maintenance of airports. ★ ★ ★

Airport Development Program Planned by U. S. Jaycees

The aviation committee of the U. S. Junior Chamber of Commerce is planning as the organization's "number one" activity for 1945-46 a program to promote small airport and airpark development, creation of an expanded pilot training program, institution of aviation courses in schools and colleges, and opposition to barriers to aviation growth. Vernon Willis of Las Vegas, Nevada, a Western Air Lines executive, has been named national chairman of the aviation committee.

Moisant Airport Nears Completion in New Orleans

The $5,000,000 Moisant International Airport, third airport for New Orleans, is to be ready for operations in late September or early October. The new airport has three 5,000-foot and one 7,000-foot runways. The three fields combined will have ten runways, all in excess of 5,000 feet, paved taxistrips, aprons and complete hangar facilities. The Moisant airport will ease the traffic strain at New Orleans, where six major airlines give service. The latest airline is Mid-Continent, providing direct air link between the Gulf and Midwestern routes.

U. S. Maps Plans for Postwar Military Production

A postwar aircraft program by the Army and Navy may be ready for announcement by late in the summer, according to J. A. Krug, national chairman of the War Production Board. He stated that the government should buy military planes to keep a healthy aircraft industry. Krug estimated that after the war the aircraft industry would drop to about 10 per cent of its wartime peak, and that a comparative percentage would be highest on the West Coast.

Washington Airpark Planned

The Washington, D. C., Aero Club's plans for the construction and operation of a centrally-located Washington Memorial Airpark was presented to Congressional and District officials at a dinner given last month in Washington. The dinner climaxed a two-day Joint Airport Users' Conference held under the auspices of the National Aeronautic Association.

Opens Coast Office

Robert Hetherington & Son, Inc., makers of aircraft and industrial switches, control devices, and electronic counters for airports, has opened a West Coast office at 5607 W. Adams Blvd., Los Angeles. Sales for the new office will be handled by C. E. Fisher, and L. E. Massie will be in charge of engineering, operating from the same office.

OFFICIAL U. S. NAVY PHOTO

Any port in a storm ... but there are no ports

More than one sailor has said, "It's a helluva place to fight a war!"

That's a miracle of understatement when you know the Pacific as well as the U. S. Navy knows it.

They know how many thousands of miles you have to go before you reach the fighting fronts.

They know there's almost continual rain and bad weather to hamper operations after you get there.

And they know there are no good ports!

Think of the thousands of ships, and the millions of tons of supplies it takes to keep our fighting forces moving toward Japan.

Imagine, if you can, the problem of handling those ships and supplies with no port facilities.

There are no giant cargo cranes... no miles of docks and warehouses...nothing but beaches, and human backs, and a refusal to call any job impossible.

Remember, too:

It takes 3 ships to do the supply job in the Pacific that 1 ship can do in the Atlantic.

It takes 6 to 11 tons of supplies to put a man on the Pacific battleline, and another ton per month to keep him supplied.

It takes a supply vessel, under ideal conditions, half a year to make one round trip.

Add up those facts, multiply by the number of sailors, soldiers, and marines for whom the Navy is responsible.

Maybe you'll begin to realize what "no ports" can mean in the rough, tough waters of the Pacific.

Maybe you'll see that we have *two* reasons to be proud of the U. S. Navy. *First*, the way they've sunk the enemy's ships.

Second, the way they sail *your* ships ... taking the worst the Pacific can hand them... but keeping the supply lines open ...keeping the attack *on schedule!*

SPERRY GYROSCOPE COMPANY, INC. GREAT NECK, N. Y.

★

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MAKERS OF PRECISION INSTRUMENTS FOR THE ARMED FORCES

Surplus Airport Disposal Directed by George Borsari

Disposition of surplus government airport properties will be directed by George Borsari, former CAA airport liaison officer, who assisted the military services in obtaining civil airports early in the war. Surplus government airports will be offered first to the states and municipalities in the airport vicinity, but details of the disposal have not yet been announced. Airport disposal is under the Surplus Property Board.

CAA Airport Standards Hit at Users Conference

Downward revision in certain CAA standards was asked by Sheldon B. Steers, director, Michigan Department of Aeronautics, in an address before the NAA's Third Joint Airport Users last month in Washington. Steers said that CAA minimum standards for landing facilities were too high in many communities, discouraging airport development in preventing many city councils from starting a project that might be too expensive. He asked for a downward revision in the CAA minimum standards for runway and taxiway lengths and widths, in approach glide ratios, in hangar specifications and in field lighting.

John Wilson, former executive secretary of the National Aviation Trades Association, pointed out in an address that private airplane traffic would increase far faster than the number of available landing facilities. Wilson's suggestion for a remedy was to squeeze more traffic capacity out of present landing facilities for smaller aircraft. He proposed all-way landings, so that two or three planes could land at the same time on parallel courses at the airport, rather than stack up on the ground or in the air waiting for a runway. Even the smallest fields will find it advantageous to provide and use radio installations for traffic control of some form and the outlook is very bright on the cost side for such equipment, Wilson said.

Gordon C. Sleeper, sales manager of the personal plane division, Republic Aviation Corporation, appealed for consideration of the amphibians. He pointed out that the amphibious plane made possible the use of water surfaces to provide at least 50,000 new landing facilities.

Exhibitors Invited to Model Airpark Show

Manufacturers and distributors of hangars and other airpark facilities have been invited by the National Aviation Trades Association to exhibit their products at a model airpark demonstration to be held October 1-November 30 at Forest Park, St. Louis. The purpose is to learn by experience which hangar, wind-tee, control tower device, or other product will best serve the small airport and the private flier. The program has national endorsement of several aviation concerns, with CAA studying and guiding many experiments to be conducted at the St. Louis Airpark. C. R. Mooney is secretary of the operations committee.

COLLAPSIBLE PASSENGER RAMP perfected by Douglas Aircraft Company eliminates need of ground ramp. Installed in C-54 staff transports, the lightweight device is operated from the cabin by a small electric motor and rolled into a small compartment behind the door. Another manufacturer recently announced a proposed postwar feederliner carrying its own ramp.

Firm Urges New Cincinnati Airport Site 13 Miles Distant

The final report on the airport program for Cincinnati has been submitted to the city council by M. W. Cochran, chief engineer, airport division, Giffels & Vallet, Inc., of Detroit. The firm was retained last March for selection of a site for a major commercial airport for the Cincinnati area and selected the Blue Ash Site, about thirteen miles north of the center of Cincinnati. The existing commercial airport, Lunken Field, was found to be unsuitable for development because surrounding hills prevent proper glide ratios for all weather operation, the engineers explained. A comprehensive airport program for all types of air traffic was developed for the seven-county area surrounding the city.

Old Airport Sites Reactivated in West for Flying Boom

California's recent private flying boom has been accompanied by an extensive reopening of many old airport sites and establishment of new airfields. The CAA's 6th Region reported practically all old sites have been reactivated and new sites are difficult to find in close-in areas. On January 1 there were thirty-four designated airports in California, inside the restricted zone. In August there were 115, and ninety-six of them have been approved for flight training. One small airport reported ninety takeoffs and landings per hour at peak periods on Sunday.

EQUIPMENT IN ELI WORLD-WIDE USE

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FLIGHT INSTRUCTOR

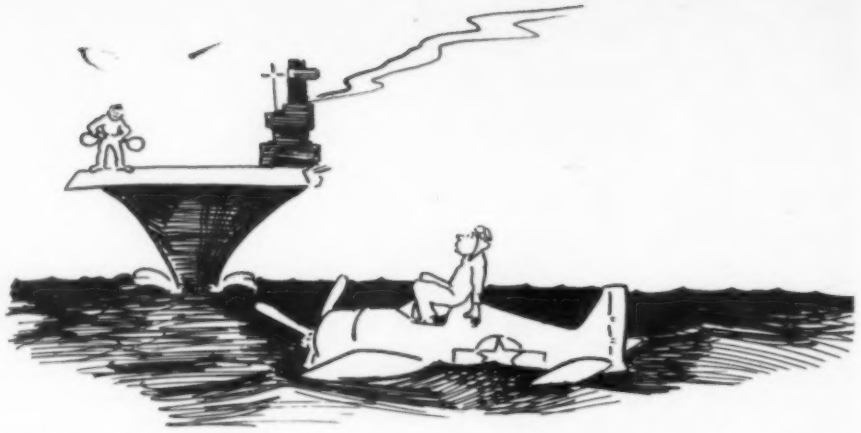
(Continued from page 40)

creasing the radius of turn, to line up with the runway. This has the advantage of being a smooth maneuver and assuring that the turn becomes gentler as I get closer to the ground. Another procedure starts with a circle which would carry the pilot to the right of the intended landing spot; then he loses excess altitude and lines up with the spot by means of an S-turn. The latter method is good in a maneuverable aircraft and is probably better when the landing must really be made to a spot. This is the method taught by the Navy. Its disadvantage is that it involves steeper turns near the ground, and is not advisable in large aircraft.

Accuracy and Flexibility

It might be well to clear up the common misunderstanding of the term "wind line" used by the Navy in describing this approach. Of course it is an imaginary line parallel with the wind direction. If you are trying to land on a small spot, it will be the line parallel to the wind through the spot, but in most cases you will have a choice of an infinite number of wind lines. It is considered good technique not to cross the wind line more than once. This simply means that one S-turn is all you should need to correct your errors and hit the spot. That single S-turn should be completed on a heading parallel to the wind—on the wind line. It is another way of saying —"Don't do any more maneuvering than you have to close to the ground."

One of the advantages of the rectangular approach is that such maneuvering on the final leg is unnecessary because the straight base leg enables the pilot to judge wind and angle of descent more accurately while he still has reasonable altitude to maneuver. Yet, if he has erred in his judgment, or if the wind has altered, he can still employ all of the corrective maneuvers that would be available to him in the circular approach. Therefore, the rectangular approach offers greater accuracy and flexibility to meet unexpected conditions.



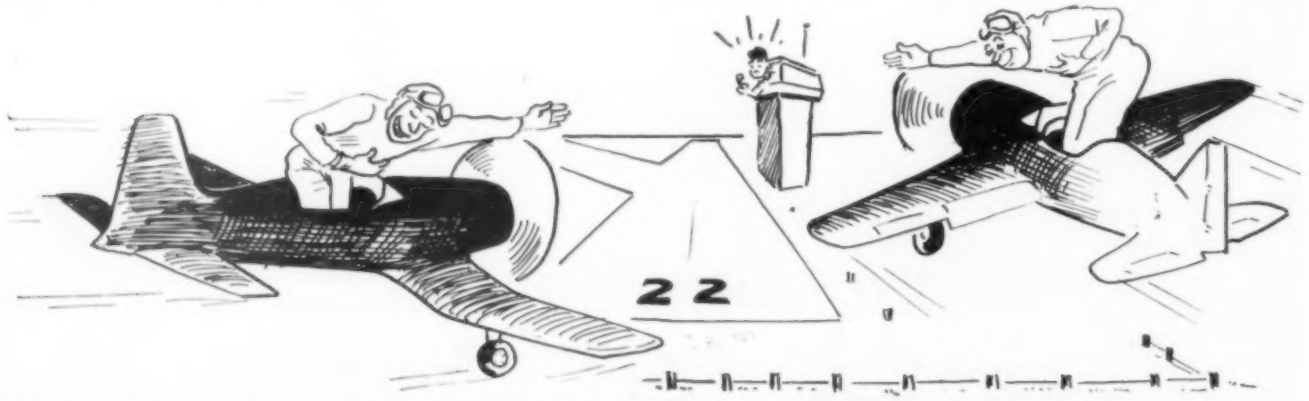
"When in a tight spot haste sometimes makes waste. A pilot in a hurry to get aboard should make a longer than normal stern approach to insure getting aboard on his first try."

The first turn of the rectangular approach is quadrant No. 3 of our circle-around-a-point. You should remind your student that the steepest bank will occur just before completion of the turn. This initial turn should be as uniform as possible — starting each time at about the same altitude and the same distance and direction from the spot on which he wants to land. If he maintains the same radius of flight path, he will obviously complete the turn at about the same position relative to the "spot" each time.

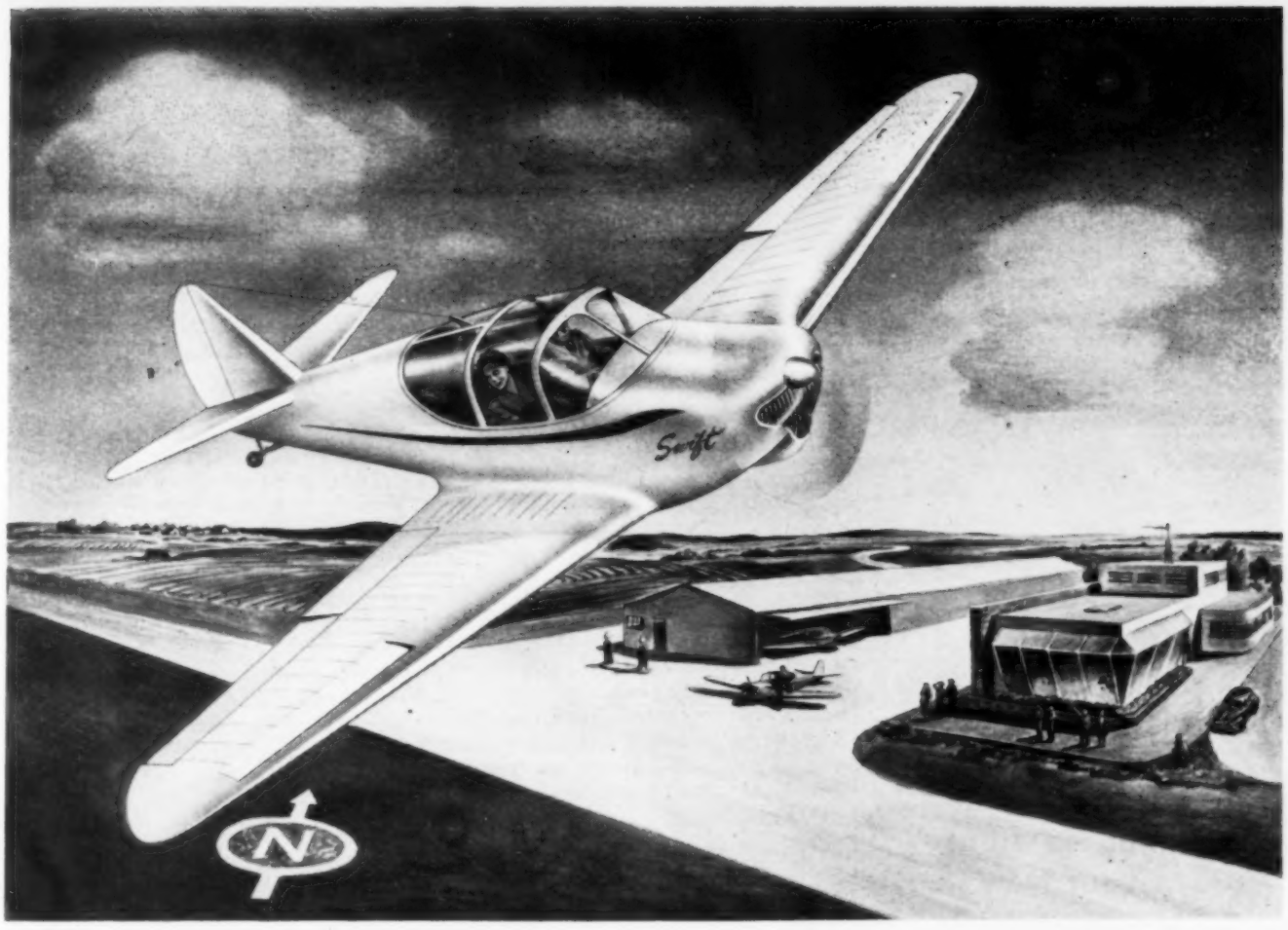
He should try to roll out of this turn on a heading that will make his flight path ninety degrees to the wind. Beginners, however, may start the base leg on a *heading* that is at right angles to the wind and then correct it to establish the desired flight path. The amount of crab required gives the pilot an accurate clue to the strength of the wind. If the wind is strong, he may alter his course so as to get closer to the field—and vice versa. He has an infinite choice of points from which he can start the turn into his final approach. In high wing aircraft the straight base leg has the additional advantage of giving the pilot another look at the field and other traffic.

This final turn is the same as the last portion of the circular approach—quadrant No. 4 of the circle-around-a-point. The steepest bank should occur at the start of the turn. Just how steep this will be depends on the strength of the wind and the point at which the turn is begun. Normally the maximum bank should not be more than thirty degrees, but it should be started soon enough and steep enough so that it will not be necessary to increase the bank during the turn, and the pilot can roll out as slowly or as rapidly as necessary to line up with the runway or hit the spot.

"Crossing the wind line"—passing the end of the runway and having to S-turn back to it—should be counted as an error. Although it may be used by experienced pilots, and is safer than the "mushing" that was frequently practiced to replace the forbidden slip in CPT courses, it is an admission of error on the base leg. The beginner will almost invariably get himself into a skid if he has to tighten the last part of his turn because he will try to do it with the rudder. He suffers a recur-



"Your students may not know, or may forget, complicated details of local rules, but if you have made them courteous and alert they will not get into trouble."



You'll be the envy of the airport with your safe, new ALL-METAL *Swift*

Yes, you will be proud of your new ***Swift*** . . . proud of its trim, streamlined beauty and proud of the things it will do in the air. The ***Swift*** looks trim and smart and smooth because *trimness* and *smoothness* are *built in*. The sound, basic design of the ***Swift***, plus *modern all-metal construction*, means natural stability and safety . . . and high performance that makes flying a challenging sport and a profitable means of travel.

Along with a cruising speed of 130 M.P.H., 700 miles range, a rate of climb of 700 ft. per minute and a service ceiling of 15,000 feet the ***Swift*** gives you landing speed as low as 42 M.P.H. with the ability to get in and out of the smallest landing fields practical for any airplane ... plus airworthiness and simplicity of control that makes flying safe and easy for any licensed pilot.

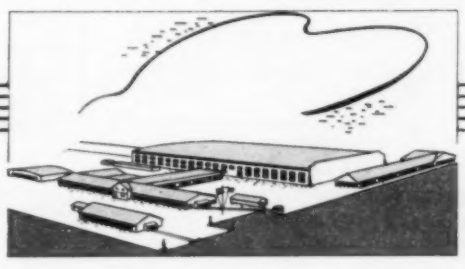
In addition to new standards of performance and safety the ***Swift*** gives you deluxe features of comfort and convenience that you've never known before in a low-cost personal airplane. The ***Swift*** is the original personal plane to be built with semi-monocoque military type construction, complete with segmental wing and all metal skin.

You can be among the first to fly your own new ***Swift*** by arranging with your local dealer for delivery of one of the first *Swifts* he receives. Write for the name and address of the ***Swift*** dealer nearest to your home.

The Swift

Made by GLOBE AIRCRAFT CORPORATION Fort Worth, Texas

Illustrated booklet on request. Write to P O. Box 4277-S Fort Worth 6, Texas



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Into the heart of the new Skycraft, beyond the sleek lines and smart interior, the skill of an acknowledged master of design, the craftsmanship of outstanding airplane and parts manufacturers have built the dependable safety, superior performance sought by forward thinking Americans. Here is the practical, efficient flying pleasure important to those who enjoy flying now, and to the thousands who hope to enjoy the benefits of flying in the near future. Right now —the construction of vital warcraft parts comes first... but tomorrow is 'just around the corner'... so plan your Skycraft order now!

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rence of his early inhibition against banking the airplane. This time it is due mainly to a subconscious fear that the wing may touch the ground. If he doesn't fall into this trap when he tightens his turn to get back, it will get him when he rolls out and makes the last part of the "S" necessary to line up with the runway. If he gets away with this, he still has the landing to make and may not have time left to "get set" for it. He will be safer if you make it a rule that he will go around and start over if he is not "all set" when he rolls out of his turn into the final approach.

I paid a price for neglecting my own rule the other day. Just as I crossed the fence on a cross-wind landing, I had a feeling that something was wrong but decided it was imagination. The ship landed excessively fast and did not slow down normally. I finally had to use the brakes so hard that I blew a tire. It turned out that a hydraulic line had broken and my flaps had blown up on the final approach. If I had obeyed my hunch and gone around, I might have discovered the trouble and taken corrective action.

So far I haven't mentioned the use of power. Your beginners should learn not to depend on power, for the obvious reason that sometime they may not have it. Furthermore, the changes in trim and rate of descent that occur when power is used are disturbing to the student. Your job is not done, though, until you have taught him how power can be used to shorten or lengthen his approach and landing—to land behind a slower airplane or ahead of a faster one. Don't let your students get the idea that the *only* way to land an airplane is to close the throttle on the downwind leg opposite the end of the runway and complete the approach without power. I have seen students make three or four unsuccessful approaches like this the first time they landed at a strange field. Teach them how they can use power to make sure of getting into a strange field the first time. On the other hand, spot landing practice at fields away from home should be part of their training, too, but not until after they have had a chance to size up the field, its hazards and its traffic.

The worst mistake any pilot can make in a traffic pattern and an approach is to concentrate on the field or landing spot. To do so not only places him in danger of collision, but distorts his judgment and may result in such errors of technique as flying wing low and edging in toward the field instead of flying a straight line. Tell your students to look out on the side away from the field more than they look toward it. At all times—and especially in a traffic pattern—a pilot must keep an open mind and be prepared to change his plans to correct his own errors or to meet unforseen developments.

The fact that a pilot has planned a certain flight path does not give him the right to continue stubbornly on that path when he sees another aircraft approaching — even though he may have the legal right of way. The right of way will not do him any good if the other pilot does not see him, or is as stubborn as he is. Of course, you know this. As an instructor, it is important that you see that your students know it, too. ★ ★ ★

Leaders at the Oklahoma meeting were Gov. R. S. Kerr, at left; Dr. Henry G. Bennett, Oklahoma A. & M. College president, center, and Secretary of Agriculture C. P. Anderson.

FLYING FARMERS

(Continued from page 36)

nautic Association; S. E. Travis, Jr., 4th Regional CAA supervisor of airports; Gene McGill, flying farmer of Alva, Okla.; Walter D. Mauk, Blackwell, Okla., airport operator; Forrest Watson, flying farmer of Thomas, Okla.; President Henry G. Bennett of Oklahoma A. & M.; Al Bennett, Aeronca Aircraft Corporation sales manager, and others.

New planes exhibited included three Aeroncas, a Taylorcraft, Luscombe's Silvaire, a Cub, the Swift, an Ercoupe, a Stearman and the new Funk.

Farmers use planes to inspect fences and condition of the land, find strayed livestock, rush food and medicine to animals isolated by flood or sickness, carry foremen from one ranch to another thus making for more timely and closer supervision over ranch operations, expedite urgently needed repair and maintenance parts and tools, travel to markets and conferences otherwise impractical to reach, sowing seed and dusting crops, and other chores. ★ ★ ★

Logging The Coast

By.. Midge Winters

Movies Take to Air

THE two most highly publicized industries in the nation met on hard, practical ground this month as Republic Productions' president, Herbert J. Yates, Sr., announced from his Hollywood offices that his company would invest in a small fleet of aircraft, including a six-place helicopter, a twenty-one-passenger plane, and two heavy cargo planes capable of at least "three-ton loads."

Yates said that the helicopter would be used in sighting picture locations, while the passenger plane would be used in transporting troupes and the cargo planes for cameras and sound equipment.

★ ★ ★

Million Miles by Limousine

Hitching his wagon to the airline business, Joe Ferrant is the plucky Spanish-Italian on the West Coast who, as early as 1926, first saw the future in transporting air passengers from the airport to their hotels—and back again.

Today, after dedicating almost two decades and 100 limousines to the cause, he announces that last year alone his company, Airdrome Transport, totaled over a million miles running passengers back and forth from Lockheed Air Terminal to Hollywood and Los Angeles hotels—a distance of some fifteen miles.

Genial Joe expects to come forth with some revolutionary plans for the future soon, and even now has on the drawing boards some designs for a streamlined limousine which will keep pace with the luxury airliners planned for global travel.

★ ★ ★

Wright Optimistic

On a trek through this area, CAA Administrator T. P. Wright passed on the interesting personal comment that the helicopter is today where the airplane was in 1914-15 and that it will be "several more years yet" before it comes into its own.

He also noted that CAA expects a great increase in charter and such commercial flying, and that while there are no rules on this type flying now, "we are studying it and will be ready when the time comes."

And while we had heard the theory advanced before, it was good to hear Wright say that eventually there will be no extra charge on airmail . . . we can simply mail an ordinary letter and expect it to go by the quickest route.

★ ★ ★

Auto First Conestoga Freight

A chat with the Bob Prescotts in their hotel suite found them a wonderful couple, full of enthusiasm over the inaugural flight of National Skyway Freight Corporation, of which Bob is president.

However, Helen Ruth, formerly a Washington newspaperwoman, confided that actually the first cargo of the Flying Tiger Line (so the corporation is called because its owners and founders all served with Chennault's AVG) was she and her broken down convertible. Stranded out in the desert en route to the West Coast, she phoned Bob, who flew one of the Conestogas (the corporation operates a fleet of seven) over, landed at the nearest airport, bundled her and the coupe into the 10,000-pound cargo cabin, and flew them to Long Beach Municipal Airport headquarters. ★ ★ ★

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The American Lip Microphone weighing only 1½ ounces will fully modulate any transmitter having a standard single button carbon microphone input. Ideal for cabin planes. Cuts out ambient noise. Feeds clear articulate signals to the set. Leaves hands free for flying. Not affected by barometric pressure. As easy to put on as eye-glasses.

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The compact utility of an American Hand Set is well established. It has a microphone-relay push button switchcontrol and is readily adaptable to various voice communication circuits. To get your message thru on land, at sea or in the air—Talk American!

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FIRST PHOTO OF 150-HP. Stinson Voyager was made at Fort Worth dealer meeting last month, after which the plane was flown to Colorado for altitude performance tests. New performance figures have been withheld. A $1,000,000 order for Stinson's four-place Voyager was accepted recently from Howard Brown, general manager of Western States Aviation Co. Stinson Sales Director James C. Welsch said he believed it to be the largest single order for personal planes on record.

PRIVATE FLYING

(Continued from page 31)

est possible cost," Adler said. No price has been listed.

Proposed performance figures for the Ensign include 115-mph. cruising speed, 125-mph. maximum speed, 50-mph. landing speed, 500-mile cruising range, 700-ft.-per-min. rate of climb, 14,000-ft. service ceiling, and 550-lb. useful load including fifty pounds of baggage. Photos of the new plane were not immediately available, but an artist's sketch in the company's advertisement on page forty-five of this issue features a full-vision bubble canopy.

CAA on Guard

Stirred by irregularities he said he found on an inspection tour of CAA regions, Administrator Wright has supplemented charges of malfeasance against unnamed CAA officials with orders for "strict and impartial" enforcement of the Civil Air Regulations. In a directive, he told CAA men: "You are public servants charged with the promotion of civil aviation and should be co-operative in your dealings with the public to the fullest extent consistent with the protection of public safety. The CAA will promote civil aviation to the utmost, but it cannot do so unless that promotion work is based on two things — an appreciation of the fact that this organization must at all times be entirely above suspicion and a determination to make private flying as safe as possible. We cannot tolerate even a suspicion of favoritism or laxity, and where such suspicions have developed the reasons for them are going to be eliminated."

Administrator Wright ordered CAA personnel to follow a seven-point program he detailed as follows:

1. Questions contained in the written examination questions for pilots will be frequently revised.

2. The law which prohibits unauthorized persons from receiving advance copies of examination questions will be stringently applied. Regional administrators will be held responsible personally for taking necessary precautions.

3. CAA employes are prohibited from holding any bonds, stocks or proprietary interest in any civil aviation enterprise which by virtue of their positions in CAA they may be able to affect in one way or another.

4. Acceptance of gratuities and gifts of material value will endanger the continued employment of CAA employes.

5. CAA employes are prohibited from engaging in the business of purchasing and reselling airplanes, parts and accessories.

6. Personal use of official airplanes and autos is strictly prohibited.

7. Inspectors in the General Inspection Service will be rotated on an intra- or inter-regional basis.

Although he ordered strict enforcement of the Civil Air Regulations, Administrator Wright told CAA men they should not become "literal-minded martinets."

FIRST POSTWAR RANGER radio for private fliers is five-tube Model 117 receiver, weighing only one pound, twelve ounces. It can be mounted on standard three-inch instrument panel hole, has automatic volume control and outperforms prewar models. It is already in production.

ROUNDUP OF NEW MODELS was photographed at last month's meeting of Oklahoma's Flying Farmers Association at Stillwater. Left to right around the circle are the Swift, Luscombe, Stearman, Funk, and Ercoupe.
—(Photo by James F. Laughead.)

Scintilla "sparks" the finest

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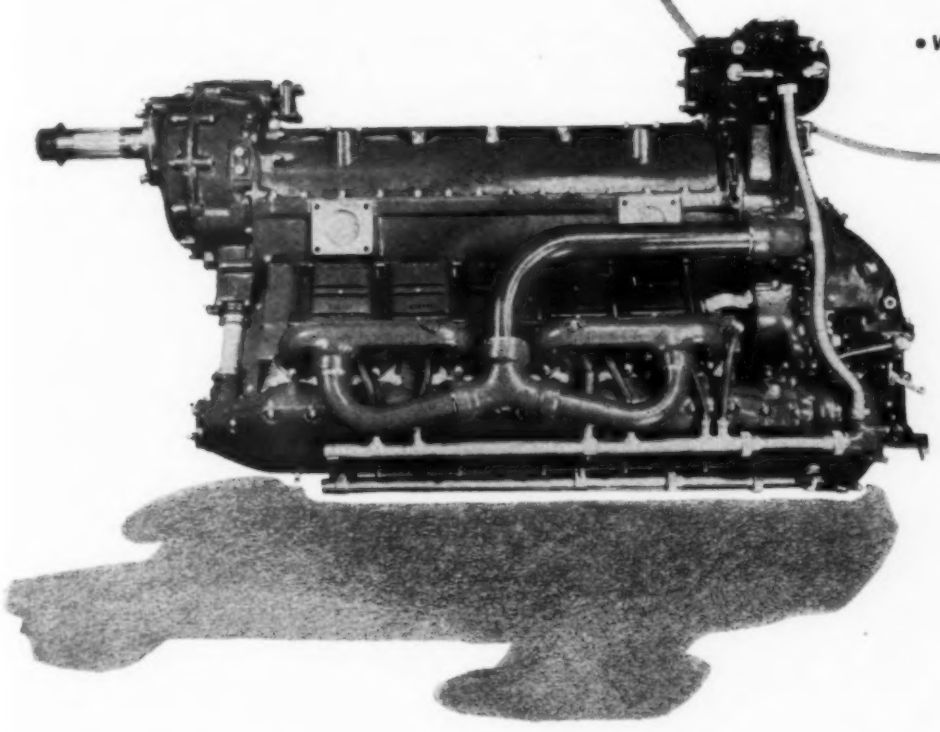

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THE Sky's the Limit

BY BILL GREEN

Indifferent airport service is a serious handicap to cross-country fliers. . . . From Chicago to Tulsa we spent 30 per cent of our time on the ground because others were lazy. . . . . Timely statistics tell air market story.

Poor Airport Service

EVERY time we make a trip any distance by air we are immediately impressed by two things: First, the only satisfactory way to go quickly, easily and cheaply, all things considered, is to fly. Secondly, airmen have to deal with a host of people in aviation who are still playing at the flying business. These latter people are the greatest menace to the wide acceptance of aviation in business that we know of.

For example, on arriving at St. Louis, we taxied up to the ramp, where two or three people were waving us in, and asked to have gasoline put in all the tanks. We then had a pretty fair lunch at the airport restaurant, went back and found they were just getting ready to put gasoline and oil in our ship. When this job was completed, our battery was not strong enough to start the engine. After waiting an interminable length of time for the attendant to bring us a rental battery, we gave up and wheeled the ship around and cranked it by hand. When we were all ready to go, the fellow finally drove up with the battery. These things might be excusable if they weren't so frequent.

Example No. 2: Arriving at Chicago, we found no hanger space and our ship had to be tied down for the night. The next morning we called out, told them to fill all tanks with gasoline, check the oil at five gallons and put the battery back in the ship (we had asked them to charge it the night before), and that we would be out in about thirty to forty minutes. But when we arrived and found the ship was still "tied down," which meant that they had put a piece of two by four in front of each wheel. It was behind two or three other ships and had not been gassed. The battery was in it but that's all. A surly acting young fellow didn't give us any help so we got the other airplanes out of the way and pushed the Beechcraft up to the gas pit where he finally put gas in it. One of the tires was a little soft, but we managed to obtain a pump from him and inflated it ourselves. After selling us forty gallons of gas and charging our battery for us, both at a nice profit, they charged $2.00 for the alleged "tie down."

Example No. 3: Arriving back in St. Louis, we were in a hurry to get gassed up, but had to wait on another fellow in front who was also in a hurry. It seems none of these gas wagon attendants are in any hurry about writing out their gas tickets and making change.

These are not exceptions. We have gone any number of places and have found that although it takes four hours and five minutes flying time from Chicago to Tulsa, one loses forty-five minutes on the ground at Chicago trying to get started and thirty minutes at St. Louis, trying to get gassed. One hour and fifteen minutes of lost time represents a 30.6 per cent increase in travel time simply due to laziness and unwillingness to carry out instructions.

A long time ago, we got pretty well discouraged with attempting to buy fast airplanes because the time we could save between one place and another didn't make any appreciable improvement anyway. Of course, this situation would be improved if we could have sufficient gas to make the whole trip non-stop. The best trips we ever make are those in which we can leave Tulsa, land some place and come back without having to take on any fuel or oil. Thus, we don't have to contend with lackadaisical airports attendants.

Perhaps the trouble is that too many airport attendants have been working too long, mostly with students and airport fliers who are never in a hurry anyway. We feel there is going to have to be fast, snappy and courteous service given to all transient pilots if any speed is to be made by air and

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if people are going to find flying valuable to business.

Even so, however, there are many benefits in flying on a trip such as from Tulsa to Chicago. The first outstanding thing is that it is presently almost impossible to get train or airline reservations and tires are so scarce that one dare not start out in his automobile expecting to get there and back without difficulties. The second is that you can go whenever you please. You can do that in a car, too, but it would take five to six times as long. The third thing is that there are no stop signs except at St. Louis, no curves in the road, no mountains, no bridges, no passing of cars, etc. The fourth thing is that you can make it from breakfast to lunch, or lunch to dinner, thus avoiding meals in a lot of sorry places. Fifth thing is that three of us made the trip in the Beechcraft for a lot less money than we could have gotten there any other way. Three railroad fares are a lot more than it cost to fly the Beech and if we had gone in the car, the actual traveling would have been cheaper but we would have had to stop and pay a hotel bill for three people. From the company's standpoint, our salaries were going on too, and because we lost no time, they got a lot more out of us than if we had gone by other methods.

Know Your Air Market

Southern Flight has recently published one of the most complete compilations of statistics in connection with the aviation market that we have ever seen. It is entitled "Air Market Data Service." We were checking through its several hundred pages and have found statistics of every size, shape and description about all the counties of each state from fifty different viewpoints. We were especially interested in checking the counties we are most familiar with, one of them being Tulsa County, Oklahoma, where we live. Some months ago, we predicted plane manufacturers could not expect to sell an awful lot of any except the cheapest aircraft in most places and estimated that there were only 600 people in Tulsa who could afford to own the cheapest operating aircraft we have ever used, the Culver, assuming that they use it a reasonable amount. These 600 people, according to information we obtained from a local bank, were persons who make $6,000 a year or more. From the Department of Commerce and Bureau of Revenue Statistics contained in the "Air Market Data Service" book, we find 839 people in all of Tulsa County, which includes a number of other towns, had net incomes over $5,000 per year. Probably not over one-fourth of the people who could afford to own airplanes will buy them. Thus, we expect about 125 people in Tulsa to be able to own and operate airplanes. As a matter of fact, most of those people presently do have airplanes, so at the outside we would not expect the number of aircraft belonging to private citizens to more than double in this community.

This has nothing to do with the business uses of aircraft, however, and it is there that we expect the great increase in aviation supporters. There are 418 Tulsa wholesale establishments that sold $85,000,000 worth of goods in 1939. Most of those establishments could afford to own airplanes and could afford to use them in their business. Tulsa County had sixty-one farms that grossed over $6,000 in 1940. We predict that many farmers will become aircraft owners and, in fact, there was recently a "Flying Farmers" meeting at Stillwater, Oklahoma. There were 2,177 farms in Oklahoma that grossed over $6,000 in 1940. To anyone really wishing the inside on the statistics of the United States, with especial reference to aviation, automobiles, wholesale, retail and farm markets, we suggest you check into this "Air Market Data Service."

As of several months ago, there were some 27,021 registered civil aircraft in the United States, of which 4,588 do not have valid airworthiness certificates, and 22,433 aircraft actually being flown. As of January 1, 1945, there were 131,152 pilots, or about one aircraft to each six pilots. Although five of these pilots probably cannot afford aircraft or are unable to get them, it is possible that they may engage in some business which can obtain aircraft and can afford to use them. Added to this 131,152 must be some 200,000 Army and Navy pilots, many of whom undoubtedly will continue to have an interest in flying.

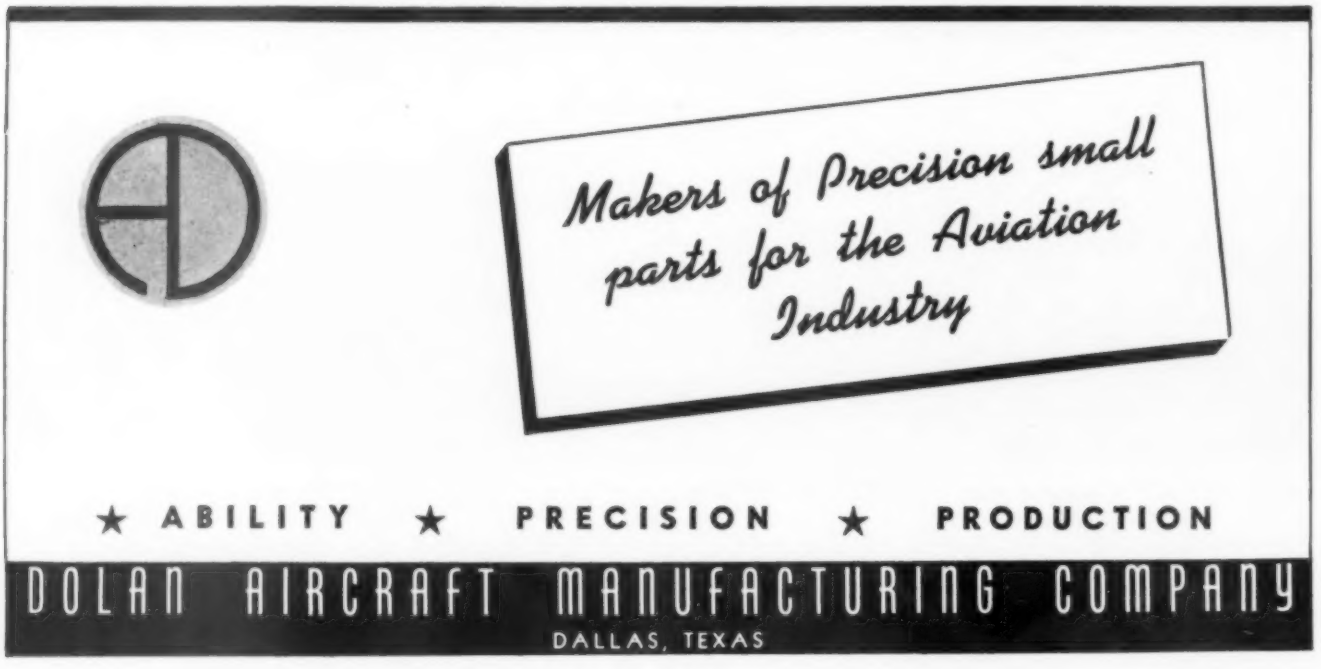
If we can find enough places where aircraft can be used advantageously, it seems to us there will be more than enough pilots so that the number of operating aircraft might be increased ten-fold in the next few years.

The war ended rather suddenly since our last column and it has aroused our expectations that lots of private aircraft will become available soon.

We expect most of the manufacturers will have about as much trouble as we are having at this reconversion business so that probably we will not see many new airplanes this year. They should commence rolling out in volume next January.

That will mean that they will have to get more gas wagons in Chicago and St. Louis, or else it will be a three-day wait for your turn to gas up.

What it may come to eventually is gas hoses with meters that you drop a dollar or a five-spot, or something into, or at least many gas hoses with many attendants. ★ ★ ★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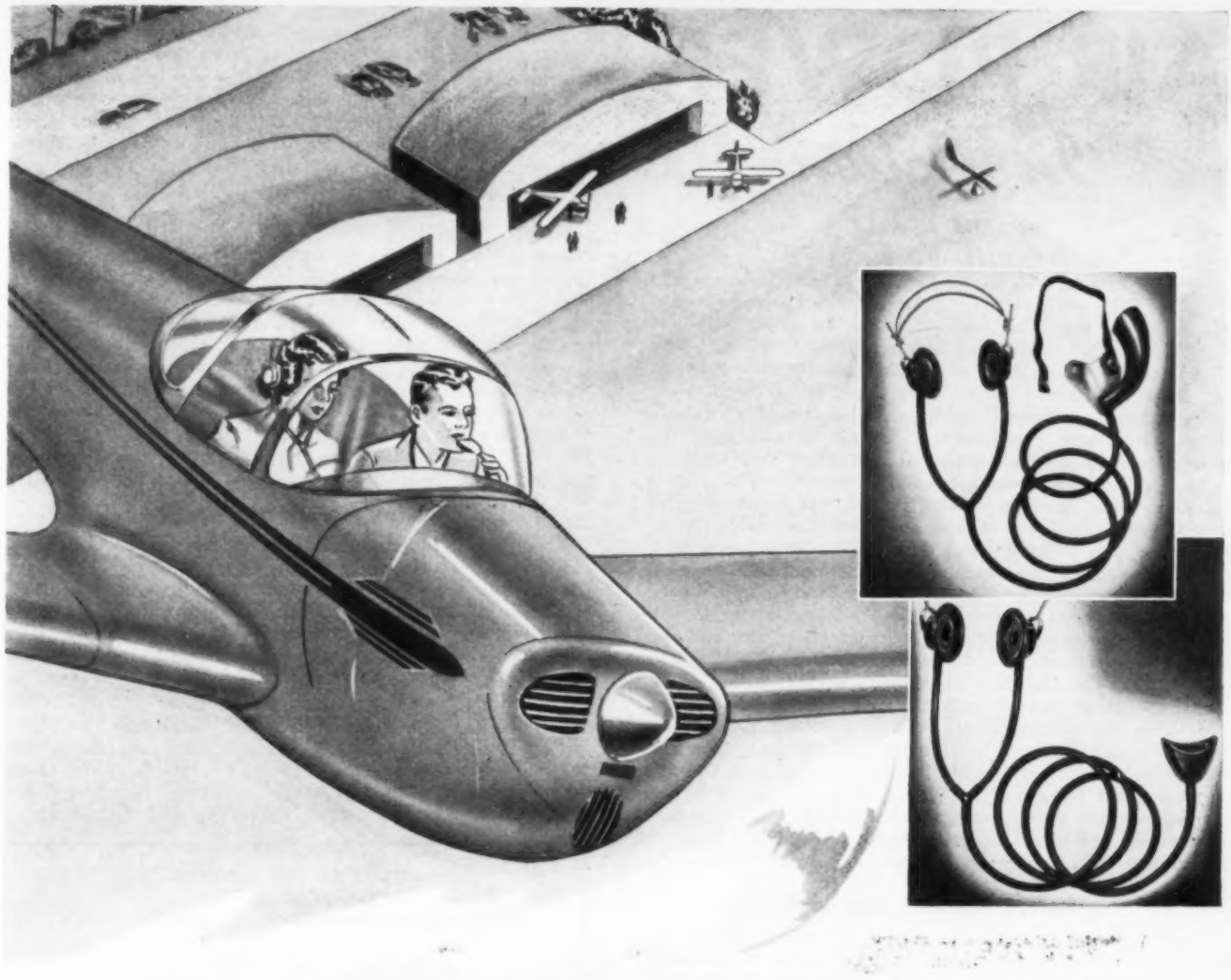

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AIR POWER
In Action

By TOM ASHLEY

ATOMIC bombs stopped World War II in a cataclysmic stroke, but it was old-fashioned bombing, done the hard way, that whipped the Japs. Occupation forces and evaluation teams, given time, will find B-29 incendiary and high explosive assaults accomplished far more destruction than Army Air Forces intelligence officers have previously claimed. When the first atomic bomb pulverized Hiroshima on August 6, and was followed two days later by another atomic attack on Nagasaki, Japan was already defeated and knew it. The earth-splitters, plus Russia's declaration of war on August 8, served merely to force Japanese admission of defeat when surrender was offered on August 10.

But speculation has begun over the fact that Japan's "main" armies had not been "defeated" when quits were called. The point stressed is that future Japanese war lords will use this to gain support at home for another try at war. Such was Prussian thinking after World War I, when the Germans capitulated at the border, withdrawing well-armed forces into their unscarred homeland. This time the German armies were completely beaten and their homeland reduced to ruins, and the hope is that the Germans have lost their warlike ways once and for all. It is thought by some that those Japanese forces which were forced to surrender without fighting on the battlefield might one day drum up another Pearl Harbor under the delusion they might do better next time.

Air Defeat Doomed Jap Soldiers

Such thinking ignores the major lesson contributed by World War II, a lesson which must be heeded if adequate U. S. defensive strength is to be maintained to keep the peace or to forego defeat if war comes again. It is the lesson that armies don't win without air power. Put another way, it means that air power can ignore ground forces lacking adequate air support at home and destroy the very resources those forces seek to defend. World War II was fought on land and at sea as well as in the air, but it was won from the air. It is true that boats hauled the supplies across the ponds and amphibious forces won the beachheads and the islands, but when the surface fleets and armies reached their final targets the enemy had already been reduced to impotence and ruin—by air forces which had long since decided the issue, first by defeating the enemy air defense and then by destroying the enemy's war resources.

Germany's blitzkrieging Panzers were not her "main" armies at all—the Luftwaffe was. Nor were Japan's "main" armies the well-trained, fanatically-fighting forces retained north of Okinawa, in China and Manchuria—the Japanese Air Force was. When the enemy air forces were defeated, the ground forces were doomed. Moreover, it was not merely the lack of air cover that sealed the fate of German and Japanese armies. The war was lost for them when U. S. industry, especially the aviation industry, was allowed to expand and operate unmolested by air assault. Destruction of the enemy's basic industry is the key to victory in modern warfare. Without it large armies are powerless against properly directed air and surface forces.

After Allied air attacks had made German resistance useless, whole divisions, corps and armies fell prisoner. Russia's invasion of Manchuria, delayed until after the Japs had approached Moscow with an offer to surrender to the Allies, met fanatical resistance only in spots, and vast numbers of Japanese were taken prisoners. While Jap forces which met defeat in New Guinea, the Solomons, the Gilberts, Marshalls, Marianas and Philippines were numbered in thousands, millions were later surrendered when continued combat had been made useless by air power's overwhelming victory in Japan proper.

It was only recently that the doubters despaired of air power's decisiveness against Japan. In the island campaigns the comment was like this: "You'll never get them with planes; you've got to walk in and dig 'em out!" That was true, and that's the only way B-29 bases were won, at tremendous costs. Then the experts foresaw "years of war" and actual invasion of China and the Japanese homeland before victory could be won, air power or no air power. Manchuria was pictured as the impregnable fortress into which the fanatical Nips would retreat to fight on even after Japan itself had been overrun. But the fire bombs burned out Japan's factory cities (they wouldn't burn, according to the experts), and high explosives completed the wreckage of Japan's industry. In the background the atomic bomb was held waiting as air power's trump card in the strategic air assault against the industrial heart of Japan's war strength.

Oblivion Instead of Surrender

The only detailed description of the atomic bombing results against Hiroshima and Nagasaki has come from the Japanese and probably contains much exaggeration. But even if the Japanese account is greatly discounted the new air weapon's potential destructiveness remains beyond immediate comprehension. It has multiplied the effectiveness of air power to a degree which will not be accurately gauged for some time to come.

Wafted earthward beneath two parachutes, the Hiroshima bomb was detonated about 1,000 feet above the target, according to the Japanese account. The B-29 which dropped it from a height of 25,000 feet had flown eight miles by the time it exploded, and "three appa-

LOSSES IN THE AIR WAR
July 26-August 18
(Does Not Include Probables or Damaged Totals)

	Pacific		S. W. Pacific		China		20th Air Force
	Enemy	Allied	Enemy	Allied	Enemy	Allied	U. S.
July 26	....	....	....	....	....	2	1
July 27	....	....	....	....	....	....	1
July 28	144	....	8	2	....	....	....
July 29	....	....	....	2	....	....	1
July 30	124	14	....	6	....	....	....
July 31	....	....	1	1	....	....	....
Aug. 1	....	....	....	3	....	5	....
Aug. 2	....	....	....	3	....	....	1
Aug. 3	12	....	6	....	....	2	....
Aug. 4	2	....	....	2	....	....	....
Aug. 5	2	3	....	1	....	....	....
Aug. 6	5	....	....	....	....	....	1
Aug. 7	....	7	2	....	....	....	1
Aug. 8	2	6	13	5	....	....	3
Aug. 9	189	19	....	3	....	....	....
Aug. 10	153	....	11	5	....	....	....
Aug. 11	1	1	....	....	....	....	....
Aug. 12	....	....	3	2	....	....	....
Aug. 13	273	7	....	....	....	....	....
Aug. 14	4	....	20	7	....	1	....
Aug. 15	35	....	....	....	....	....	....
Aug. 16	....	....	....	....	....	....	....
Aug. 17	2	....	....	....	....	....	....
Aug. 18	2	....	....	....	....	....	....
Totals	950	57	64	42	....	10	9
Totals since Jan. 1	6296	313	1325	130	642	182	*317

*An official recapitulation of B-29 combat losses, issued on August 17, shows 437 B-29's destroyed throughout the 20th Air Force's offensive against Japan.

SOUTHEAST ASIA: 4 enemy planes destroyed. Totals since Jan. 1, 147 enemy, 135 Allied.

(NOTE: These figures are compiled by SOUTHERN FLIGHT from daily headquarters communiques issued by the respective commands. They are, therefore, subject to periodic adjustment. Dates for Southwest Pacific are those on which figures are released; others when action occurred.)

LOSSES IN THE AIR WAR FOR 1944 — EUROPE: 9,907 enemy, 8,467 Allied; ITALY: 4,408 enemy, 3,631 Allied; SOUTHWEST PACIFIC: 3,612 enemy, 420 Allied; CHINA: 1,037 enemy, 262 Allied; SOUTHEAST ASIA: 406 enemy, 253 Allied; PACIFIC: 5,279 enemy, 445 Allied; RUSSIA: 13,989 enemy.

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FIRE BOMBING OF JAPANESE INDUSTRIAL CENTERS brought Nippon to its knees before atomic bombs were loosed on Hiroshima and Nagasaki. These Army Air Forces photos show clusters of gasoline bombs dropping on Osaka (top) and a view of the resulting conflagration (lower).

NEWEST GERMAN JETS STUDIED BY AAF include 400-mph. Arado AR-234 reconnaissance bomber (top) and 500-mph. ME-262 Schwalbe shown above. Both have Junkers Jumo 004 turbo jet engines developing 2,000 thrust pounds each. Schwalbe's nose wheel is same as ME-109G main wheels. "Willie" was surrendered at Troop Carrier base by Germany's leading engineering test pilot now working for AAF. Photos were snapped overseas by a SOUTHERN FLIGHT reader.

ratuses" attached to the parachute fell to the ground. Two phenomena resulted from the detonation. The first was an explosive heat blast which shattered buildings over a wide area but without effective damage against the speeding B-29 eight miles away. The second result was the creation of penetrating radioactive rays, some of which were instantly lethal and some of which were said by the Japanese to inflict "mysterious" burns which did not kill their victims until days after the attack. Casualties from both the Hiroshima and Nagasaki bombs were said to have been 70,000 persons killed instantly, 120,000 wounded and 290,000 made homeless, of which 60,000 were killed, 100,000 wounded and 200,000 made homeless in Hiroshima.

Air weapons which can accomplish that kind of destruction have shattered the old theory that infantrymen must be defeated on the battlefield before victory can be won. Industrial strength is the real target — disintegrate it and the infantryman is left without a purpose.

New concepts of air power built upon that proven fact will influence far-reaching changes in the mechanics of air power. General H. H. Arnold has hinted at the revolutionary aspects of the changes. Coming up, he declares, are (1) supersonic speeds for manned and pilotless aircraft, eliminating plane-to-plane combat as we know it today; (2) highly perfected guided missiles which can reach targets at any point on the earth and score exact hits on targets as small as one mile square; (3) improved atomic bombs destructive beyond the wildest imagination; (4) incredible perfections in anti-aircraft weapons of rocket or "other" types which will automatically steer themselves at high speeds into enemy planes or guided missiles; (5) perfected communications between air and ground making possible the most intricate maneuvers by piloted and pilotless missiles; and (6) extraordinary techniques allowing air borne forces to be launched, landed and supplied at any point on earth "in a matter of hours."

All such developments are more than mere visions or possibilities. In the words of General Arnold, they are "probable to the point, almost, of inevitability." The important point is that air power is rapidly reaching maturity. Its decisiveness against Japan was greater than that against Germany, and marked the beginning of "grown-up" air power. If the "undefeated" Japanese armies have not learned the lesson of air power, their next attempt at war without adequate air forces will bring oblivion to their nation instead of surrender.

★ ★ ★

Arnold Retiring

General H. H. Arnold has announced his intention to "step down" soon from command of the Army Air Forces.

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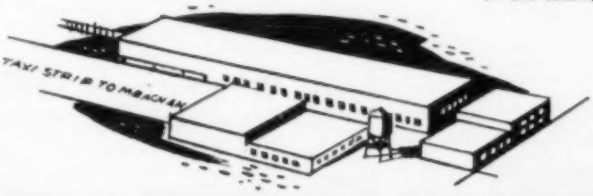

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Military Output Slashed To Trickle, but Civil Production is Expanding

With $9,000,000,000 worth of military orders, about 90 per cent of existing contracts, abruptly cancelled upon Japan's capitulation, the aircraft industry is readjusting its facilities to produce only about 3,000 military planes during the remainder of the year while expanding reconversion for civil aircraft output, which is expected to reach a rate of 4,000 to 6,000 planes annually by January 1. Experimental military projects, of which there are many, are being continued but are subject to possible cutbacks.

Although 2,100,000 workers were employed in airplane production at the November, 1943, peak, only half that number worked in the basic aircraft industry, and 800,000 of these will have been released by November, when military output will shrink to about 200 to 300 planes monthly (9,117 planes were built during March, 1944). Civil aircraft production, consisting chiefly of personal planes, will probably reach a level of 300 to 500 monthly by November 1, expanding rapidly thereafter. A recent poll of personal plane manufacturers by SOUTHERN FLIGHT resulted in factory estimates that 22,300 to 24,500 private planes are expected to be produced during the first year of full production.

According to E. E. Wilson, president of Aircraft Industries Association, cancellation of remaining government orders and renegotiation uncertainties provide serious problems. Industry planning is also handicapped by lack of public policy on postwar military production, development and research.

Complete details of the V-J Day cancellation program were not available, but the Securities and Exchange Commission reported they included $4,692,049,572 worth of contracts cancelled as follows: Curtiss-Wright Corp., $616,000,000; Wright Aeronautical Corp., $602,000,000; Boeing, $930,000,000; United Aircraft, $833,000,000; Douglas, $525,000,000; Bell, $252,000,000; Republic, $242,000,000; Grumman, $240,000,000; Lockheed, $191,255,794; North American, $147,915,243; Northrop, $62,357,535; Beech, $23,521,000; Fairchild Camera and Instrument, $14,000,000, and Waco, $13,000,000.

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Army Development Contracts Indicate Peacetime Operation of Fort Worth Plant; 3 Major Projects Continued

Consolidated Vultee Aircraft Corporation's Ft. Worth division is expected to become one of the Army Air Forces' major sources for new aircraft models. However, only a fraction of the sprawling factory is expected to be kept in operation.

Three thousand workers were discharged within a few days after the truce with Japan, leaving 8,000 workers on the payrolls. Two or three thousand more will probably be released within the next sixty days, reducing the factory's semi-permanent force to about 5,000 or 6,000.

Although the company has been unable to announce definite postwar plans for the Fort Worth facility, which was built and is now owned by the Army, the AAF has declared it will be continued in operation as a center of developmental work. Three major products under way are being continued. They are the B-36, largest bomber now under construction; XC-99, world's largest land-based transport, and a radically-new aircraft design still shrouded in secrecy. Work on the B-36 is well along and it is expected to fly before the end of the year; the XC-99 is a little behind the B-36, and the ultra-secret project is still in the design stage.

Fort Worth's assembly line was filled with partly-completed B-32's when stop orders halted their completion.

Prompt Filing of Contract Claims Asked

Making sure that contractors with terminations file their claims promptly is the main problem in contract settlement at present, according to Robert H. Hinckley, director of contract settlement. He said the government could not settle claims until they were filed by contractors, and urged those who had received termination notices to get their claims in promptly.

Navy Cuts Ryan Order 45 Per Cent

Ryan Aeronautical Company has received notice that the total quantity of Ryan fighters on Navy order has been reduced by 45 per cent, and the contract period for delivery of the planes has been extended six months farther. Further emphasis is to be placed on long-range research and production for the Navy, for the peacetime program of the Ryan Company.

WPB Aircraft Division Dissolved; Restrictions Ended

Dissolution of the War Production Board's aircraft division has been announced by J. A. Krug, chairman. All regulations affecting aircraft production are in the process of being revoked, leaving the industry free of all WPB controls. Mr. Krug also announced the resignation of Henry P. Nelson, director of the division.

Bell Plans Postwar Commercial 'Copters

Postwar production of a "substantial quantity" of commercial and military helicopters, both large and small, in its Niagara Falls, N. Y., plant, and manufacture of special agricultural and commercial machinery in its Burlington, Vt., facilities, are planned by Bell Aircraft Corporation, which is continuing to produce RP-63's on a reduced schedule and will continue several experimental projects including jet propulsion and special military aircraft "instrumentation which cannot be fully disclosed now."

Bendix Reconverting Automotive Plants

Ernest R. Breech, president of Bendix Aviation Corporation, has announced that plants of the corporation which in peacetime were engaged in production of automobile components can convert to automotive production in short time. He emphasized that operations of those divisions and departments devoted to aircraft components will depend largely upon the military and aircraft programs in effect after V-J Day.

Bendix produced $2,750,000,000 worth of products from October 1, 1941, until August, 1945. May 31, 1945, the corporation had approximately $540,000,000 in orders subject to cancellations. Accounts receivable aggregated $55,200,000 and inventories totaled $63,800,000 on June 30, 1945.

July Output of 4,784 Planes Reported

The Aircraft Production Board announced in August that 4,784 aircraft were accepted for the month of July. The month marked for the first time since October, 1942, that aircraft production was less than 4,800 airplanes per month. Broken down into classes, production and acceptances in July were as follows: Bombers, 1,542; fighters and naval reconnaissance, 2,193; transports, 523; trainers, 110; communication and special purpose, 416.

C-W to Center Military Output at Columbus

Curtiss-Wright is to concentrate its future military aircraft production in its Columbus, Ohio, plant, according to G. W. Vaughan, president. Manufacture of the commercial Curtiss CW-20 Commando transport for the airlines is to continue as originally planned. A small number of military Curtiss C-46 planes remain to be completed before the Buffalo plants shift over entirely to commercial production.

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TO THE TEXAS DIVISION OF NORTH AMERICAN AVIATION, INC.:

Our heartiest congratulations upon completion of your first C-82 "Flying Boxcar"—ahead of schedule!

Congratulations also on your record of production efficiency on P-51 Mustangs and AT-6 (SNJ) Texans—now unequalled by any other factory producing trainer or fighter planes.

There are many factories in Dallas whose records merit congratulations.

Since North American's Dallas plant is the largest manufacturing operation in the entire Southwest, and its production achievements are of dramatic interest to the entire Nation, we take this means of saluting you, and through you, all of the other Dallas plants with outstanding production records—too numerous to list here. In fact, this is a salute to the entire community's contributions to the winning of the war, symbolized in your own tremendous achievements.

Dallas likes to brag on a friend and neighbor who does a particularly good job. We like to let him know he's appreciated; to tell him, face to face, that we are glad he's one of us.

To Dutch Kindelberger, President; Bob McCulloch, Texas Division Manager of North American Aviation, and their associates, we want to say that Dallas is grateful for the corporate citizenship and industrial leadership you have brought to this community.

And to all the men and women of the Texas Division, we want to say that Dallas knows, and appreciates, the magnificent job you are doing. We take pride in telling this story to America, to bring you further recognition of your work, and to let other units of American industry see, in North American's *Dallas Story*, the industrial opportunities and advantages which they also can find here. Your record speaks eloquently of what Dallas offers American industry.

THE DALLAS STORY

One of the world's largest aircraft manufacturing operations—67 acres under roof; more complete manufacturing (producing a greater percentage of airframes within the plant) than any other major factory.

Original factory unit dedicated April 7, 1941—four months after construction started.

One of the most difficult aircraft production programs of any plant—manufacture of three different types of combat planes at the same time, in the same factory, under one management.

More than 18,500 flyaway airplanes of three types—AT-6 (SNJ) Texans, P-51 Mustangs and B-24 Liberators—delivered in 52 months' operation; *plus* the equivalent of more than 5,500 additional aircraft of the three types which were delivered as component units (wings, empennages, etc.) shipped as replacement spares.

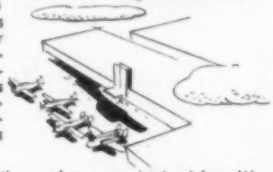
A grand total of more than 24,000 airplanes delivered—an average production of 462 planes per month for 52 months.

An all-time, industry-wide record with delivery of 752 flyaway airplanes in a single month.

**Current delivery of Dallas-built P-51 Mustang fighters at the lowest manhours cost of any fighter plane.*

**Current delivery of Dallas-built AT-6 (SNJ) Texans for a lower manhours cost than any comparable training plane.*

Delivery of Dallas-built B-24 Liberators (at the time this contract was completed in November, 1944) at a manhours cost 30% below the industry average for four-engine bombers at the corresponding number of planes produced.



Production of the C-82 Flying Boxcar now under way, simultaneously with continued AT-6 and P-51 production, within eight months after preliminary work began. (North American was low bidder on this contract in first AAF competitive bidding since 1940).

C-82 production represents the Dallas plant's fourth complete tooling-up job in four years. North American originally planned to handle 30% of the C-82 tool design and construction, and 30% of the production job, in its Kansas City plant. Changing circumstances made this impractical, and the Dallas plant had to absorb the additional 30% work load above its original schedule. Nevertheless, the Dallas plant has beaten the AAF contract schedule on the first C-82—and the second, third and subsequent ships are on the final assembly floor ahead of schedule.

Consistent price reductions on Dallas-built planes, produced under fixed price contracts: P-51 Mustangs, 39%; AT-6 Texans, 38%; B-24 Liberators, 38%.

NO STRIKES, NO WORK STOPPAGES.

The plant has a collective bargaining contract, but maintains open shop operations.

The Dallas plant has experienced one of the best labor records of any in the Nation, with low turnover and absentee ratios.

THE PEOPLE

Native American workers, intelligent, easily adaptable to industrial operations, have manned this plant.

Seventy-three key men transferred from the California plant in 1940-41, were the nucleus of North American's Dallas organization.

From this nucleus of 73 men with aircraft know-how, the Dallas organization grew to a peak of 39,960. Ninety-two per cent were Texas men and women, the majority of the other 8% from Texas' neighboring states. The overwhelming majority had no previous industrial experience, and have acquired aircraft production know-how and skills since employment.

Eighty-five per cent of the Dallas management organization are Texans.

In 52 months of the plant's operation, more than 12,000 employees have made production improvement suggestions, competing with their ideas for War Bonds and Stamps awards.

More than 7,300 men and women from this one plant have gone into the armed services; more than 700 World War II veterans now employed.

THE PLANT

Sixty-seven acres under roof—12 miles from the center of Dallas.

One of the finest industrial facilities in America; permanent construction; more than 2,500 machine tools in operation.

Built by Defense Plant Corporation to North American's specifications; windowless, air conditioned and completely equipped at the lowest cost per cubic foot of any major facility erected by the Defense Plant Corporation.

Two main plant buildings, eleven auxiliary buildings, all of steel, concrete or masonry construction; 125 acres of concrete ramps and parking aprons.

*Facts on production performance obtained from War Production Board.

Dallas Chamber of Commerce *Dallas 2, Texas*

Menasco Markets Washing Machine; Acquires Malabar Company

Menasco Manufacturing Company of Burbank has begun production of a new type of portable electric washing machine. The company will continue to manufacture aircraft landing gear and aircraft engines, as it had done in war years, but it will also be active in the manufacture of household products, the new washing machine being the first.

Menasco has acquired the business and assets of the Malabar Machine Company, Los Angeles. The combined facilities of the two organizations will produce the present products of hydro-mechanical jacks for aviation, railroad and industrial purposes.

40 Per Cent Efficiency Claimed for New Diesel

Cooper-Bessemer Corporation has set a new record engine thermal efficiency of over 40 per cent in its turbo-charged gas-diesel engine. Thermal efficiency is an engineering term for the amount of fuel consumption in relation to the horsepower developed. The new record was attained during a routine test of one of the company's regular Type JS engines.

AAF Engine Storage

The first "redeployment center" for aircraft engines has been established by the Air Technical Service Command at South Bend, Indiana, at the 820th AAF Specialized Depot. The center is to store engines returned from overseas until they are recalled for military use or released to civilian buyers. The engines, serviceable for many flying hours, are to be run along a processing line, conveyed to an infrared preheating oven and heated to a mass temperature of 180 degrees F., then moved to a tank containing corrosion preventative compound heated to 200 to 250 degrees F., where the engine is dipped, drained and finally reassembled and crated for storage. Engines no longer needed by the AAF will be made available for civilian use through the Defense Plant Corporation.

Hamilton Standard Making Rotor Heads

Rotor heads for all Sikorsky helicopters are now coming from the lines of Hamilton Standard Propellers division of United Aircraft Corporation. To date, more than 400 of the rotor heads have been built and shipped to Sikorsky Aircraft at Bridgeport and its associate producer, Nash Kelvinator at Lansing, Michigan. Approximately 900 parts go into the rotor heads.

Bendix Aviation Opens New Export Division

The formation of a new division, Bendix International, to handle the foreign trade program of Bendix Aviation Corporation, has been announced. It will be under the direction of Charles T. Zaoral, general manager, who has been co-ordinator of foreign affairs for the corporation, after serving in the foreign field for General Motors Corporation and Dodge Brothers, Inc. The new division has established headquarters at the corporation's New York office, and is to maintain a staff of engineering, sales and service personnel.

Other appointments to the new division include: F. A. Stanton, foreign patent counsel; L. B. Coates, division comptroller; Paul Moss, sales manager; Harold McEnness, assistant sales manager, and Fernando Jose Cardenas, manager of Central and South American territories.

Memphis Firm New Briggs Distributor

Diesel Equipment Company, Memphis, Tennessee, has been named distributor for Briggs Clarifier Company. The territory includes Western Tennessee and Northeastern Arkansas and portions of Missouri, Illinois, Indiana and Kentucky.

New Firm Licenses Rubber-Plastic Vulcanization

Industry Inventions, Inc., Ohio, has been organized to license the use of electric vulcanization in the manufacture of rubber and plastic products. The B. F. Goodrich Company and the Firestone Tire and Rubber Company jointly hold patents for electronic processing of rubber and plastics and the new company will make the patents available to industries on a reasonable basis.

Firm Changes Name

Aircraft Parts Development Corporation, Summit, N. J., has changed its name to Hungerford Research Corporation, and is moving to its new laboratory building in Murray Hill, N. J.

Silicone Rubber

Rubber made from sand is being manufactured by the Connecticut Hard Rubber Company in co-operation with the Dow Corning Corporation, which developed the elastic material. Heat resistance, withstanding temperatures from minus 70 degrees F. to plus 500 degrees F. and still retaining its original resilience and flexibility, is a characteristic of Silastic, trade name for the new silicone rubber.

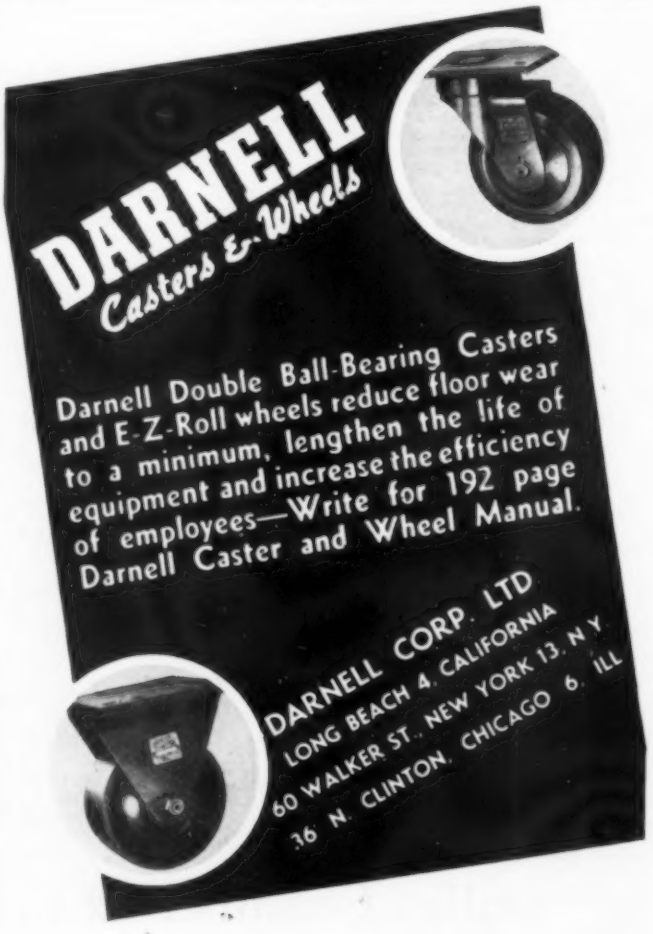
Aircraft Engineers

★ ★ ★

The Beech Aircraft Corporation will keep the same reputation for designing and building outstanding airplanes as it has had before and during the war.

In accomplishing this, we offer the opportunity for permanent positions in an expanding organization to men with experience and above-average ability on drafting, minor and major layout work and stress analysis. In applying send complete information on education and experience to the

ENGINEERING DEPARTMENT
BEECH AIRCRAFT CORPORATION
Wichita 1, Kansas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Quick production for war-time needs and coming peace-time products requires skill in many directions. And each skill from drawing to mock-up, from die casting to stamping, from heat-treating to final assembly, embodied in a single organization is another stepping stone to faster, better sheet metal production. Guiberson plants combine *all* of the skills necessary to produce accurately your most intricate sheet metal requirements and do it fast.

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DALLAS, TEXAS

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PERSONALS

RUSSELL H. WHEMPNER has been appointed sales manager of the aeronautical division, Minneapolis-Honeywell Regulator Company. He formerly supervised a group of more than 150 Honeywell technical representatives serving with the Air Forces. . . . GREGORY J. BRANDEWIEDE, formerly general manager of Curtiss-Wright Corporation's plant at Louisville, Ky., has been appointed director of sales of the Curtiss-Wright Airplane division. . . . R. C. (DICK) MAVING, former Consolidated Vultee Aircraft Corporation factory manager, has been named general superintendent of Globe Aircraft's plant No. 6. . . . S. B. TAYLOR has been elected president of The Parker Appliance Company, succeeding H. I. Markham, who was elevated to chairman of the board. Taylor was formerly manufacturing vice president for The Reliance Electric & Engineering Company. . . . JOHN N. GLADDEN is the new president of Kinner Motors, Inc. . . . F. L. HOLSER was elected executive vice president of Interstate Aircraft and Engineering Corporation, and L. A. KAVANAGH was named treasurer of Interstate.

IRVING B. BABCOCK, president of the Aviation Corporation, was elected president of the Crosley Corporation. He is also chairman of the boards of Consolidated Vultee Aircraft and American Central Manufacturing Corporations. . . . . ROBERT A. TERRY has been appointed sales manager of the Sky Products division of the Evans Products Company. He was previously with the service department of the Ford Motor Company. . . . JOHN A. ALLWOOD, JR., executive vice president and general manager of Lear, Incorporated, has been made a member of the board of directors of that company. . . . FREDERICK M. PEYSER, a member of the banking firm of Hallgarten and Company, has also been elected to the board of directors of Lear.

GLADDING B. COIT, vice president of the Reconstruction Finance Corporation Price Adjustment Board, has been elected treasurer of Curtiss-Wright Corporation, succeeding R. J. Lindquist, who resigned. . . . W. W. GLEESON has been named president of L. G. S. Spring Clutch Corporation, a wholly owned subsidiary of Curtiss-Wright Corporation. Gleeson was former general manager of Curtiss-Wright's propeller division. CHARLES H. AUGSPURGER has been appointed public relations director of Curtiss-Wright's airplane division, succeeding A. D. Palmer, Jr., who resigned.

GLENN D. ANGLE has resigned as editor of *Aerosphere* but will continue as a consulting engineer. . . . JAMES V. WINKLER has been named development engineer for magnesium on the West Coast by The Dow Chemical Company. Winkler was formerly in charge of experimental engineering at Dow's magnesium fabrication laboratory. . . . ERNEST G. WHITNEY, former assistant executive engineer of the Cleveland laboratory of the National Advisory Committee for Aeronautics, has been appointed assistant chief engineer of the Ranger Aircraft Engines division of the Fairchild Engine and Airplane Corporation. . . . WALTER F. CHAPPEL has been appointed Dayton representative at Wright Field for Hamilton Standard Propellers division of United Aircraft Corporation.

G. EDWARD PENDRAY, former assistant to the president of Westinghouse in charge of public relations and education, has opened his own office as counselor in management, public relations and education at 55 West 42nd St., New York City. His latest book, *The Coming Age of Rocket Power* was recently published by Harpers. . . . R. H. McELRATH, formerly manager of the aviation equipment department of The Ohio Chemical & Mfg. Co., has been appointed resident manager of Heidbrink technical sales service in Minneapolis. . . . BRIG. GEN. GEORGE L. USHER, former commanding officer of Wright Field, has been appointed deputy commanding general, personnel (T-1). . . . SYDNEY NESBITT has been appointed president and general manager of Atlantic Aviation Corporation of New York, distributors of Beechcraft airplanes. . . . CHARLES W. LOOS, a director and vice president of Curtiss-Wright Corporation since 1936, died last month. . . . RANDALL N. CHAPMAN, chief engineer of Laister-Kauffmann Corporation, died last month.

ROBERT K. BROWN has been appointed manager of the Washington office of Curtiss-Wright Corporation. He was formerly manager of the contract and service department of the Cincinnati plant of Wright Aeronautical Corporation. . . . RICHARD S. HUESTED, former manager of the Washington office of Curtiss-Wright, has been named administrative assistant to William D. Kennedy, vice president and general manager of Wright Aeronautical Corporation. . . . JAMES L. STRAIGHT, formerly with the Aircraft War Production Council, Inc., and the Aircraft Industries Association, is to return to private employment in an organization related to aircraft manufacturing.

Solar Buys Precision Castings Company

Price

Solar Aircraft Company of San Diego, Calif., has purchased the precision casting division of B. F. Hirsch, Inc., of New York, and will expand it for operations as a Solar subsidiary. The new firm is to be known as Solar Precision Castings, Inc., and will be headed by Edmund L. Price, president of Solar Aircraft, with B. L. Levinson, until now vice president and general manager of B. F. Hirsch, in a similar capacity in the new firm.

C. F. B. Roth New President of Aircooled Motors; Pierson Resigns

Carl F. B. Roth has been elected president of Aircooled Motors Corporation, succeeding Lewis E. Pierson, Jr., who resigned as president and director. He took office immediately and assumed the responsibilities and duties of general managership. C. F. Carr, secretary-treasurer, was elected a director.

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BENDERS — VISES — DIE SAWS
Complete Line of Self-Cleaning and Tubular Punches and Steel Rule Dies for cutting gaskets, cloth, leather and wood parts, etc.
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All types of Springs, Wire Forms, Tools, Dies and Metal Stampings.
2932 Commerce, Dallas, Texas
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NEW PRODUCTS

Computer for Plane Engines

A simple and compact computer, which enables crewman to obtain engine performance figures without the aid of graphs and complicated mathematical calculations, has been announced by Carrow Navigation Service, 2510 Oakdale Ave., Houston 4, Texas, which is the distributor for the calculator. The computer has been developed by H. B. Riggs, a flight engineer for Consolidated Vultee Aircraft, and is used in connection with Pratt & Whitney R-1830 engines. It determines BMEP and BHP readings, calculates fuel consumption, air temperature corrections, density altitude corrections and various conversions necessary in flight. The instrument comes complete with instructions and case.

Degreaser Renamed

New names for Gunk degreasers and decarbonizers have been announced by the Curran Corporation. Gunk P-96, a self-emulsifying grease solvent for degreasing aircraft, autos and parts, is now called Gunk Spray. Gunk H-S, a hydro-sealed decarbonizer, has been renamed Gunk Dunk. Both of the products have been used by the Army Air Forces, the Navy and Army Ordnance Department as well as commercial concerns.

Helium Used in Plane Tire

Helium instead of air has been successfully used in inflating large airplane tires, automatically increasing plane range and useful load, according to Goodyear Tire and Rubber Company. Heretofore, the rapid diffusion of helium through rubber has been an obstacle in the use of this gas for tire inflation, but the introduction of synthetic rubber dual seal tubes has overcome this problem. For a 110-inch tire, ninety-two pounds of air is required, but only thirteen pounds of helium is required for the same tire. The weight saved is seventy-nine pounds, or 158 pounds for two wheels. It is estimated that each pound of weight saved in commercial transport operation is worth $100 per pound annually in added passenger and freight revenues.

No Oiling for New Pump

A new motor-driven, explosive-proof dry air pump, requiring no lubrication, has been announced by Eclipse-Pioneer division, Bendix Corporation. It is designed to provide air pressure or suction for camera operation, fuel tank pressurization, ignition harness pressurization, instrument operation, noxious gas detector operation and radio harness pressurization. New construction eliminates oil filters, separators or accumulators and provides air that is free of oil contamination, eliminating explosion hazards in applications where electrical discharges occur. Since the pump has no lubrication, it can be mounted near its supplementary equipment or in inaccessible places. The pump is a rotary, single vane type. It is lightweight and automatic electrical overload protection is incorporated and provisions for wiring connections through electrical connector fitting AN-3102-16-11P.

Synthetic Rubber for Pressure Seal

A new Buna-N type synthetic rubber sealer has been developed by the Chrysler Corporation, in cooperation with the Minnesota Mining and Manufacturing Company for fast application for the pressurized section of planes. The new seal method has already been accepted for high altitude flying. With the anticipated increasing use of pressurized cabins in the commercial planes of the future, this new material and method will have wide peacetime use. The seal is applied with a flow gun and fluid pump under uniform pressure, and is about five times faster than the application-by-hand method, previously used. It seals all seams, joints and rivets needed.

Jardur Airspeed Indicator

Jardur Aviation Company has announced a new U. S. gauge airspeed indicator. It has two scales, with zero to 300 mph. and 300 to 500 mph. readings in standard graduations of five mph. The pointer makes one and three-quarters revolutions throughout full range. When used with a tachometer, it acts as a guide to economical engine operation. The instrument is complete with pitot and static couplings.

Heat-Resistant Valve Facing

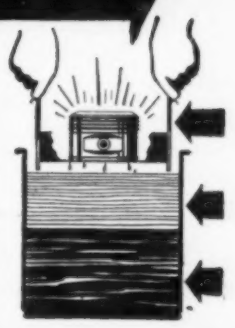
The Wilcox-Rich division of the Eaton Manufacturing Company has developed a new valve facing material that was test run 200,000 miles without refacing. Called "Eatonite," the new alloy contains nickel, chrome, cobalt and tungsten. The proportions are such that it retains hardness at extreme temperatures and also resists the chemical action of compounds. The new valve facing material will retain its hardness in temperatures above 1,000 degrees F. It is applied by a welding process, which bonds the alloy in a groove cut in the valve head.

GUNK H. S. DUNK

FOR CARBON DEPOSITS, OIL VARNISH, CLOGGED OIL LINES
FUEL PUMPS, CARBURETORS, OIL COOLERS, FUEL INJECTORS

Gives a Complete Strip
—*not a strip tease*
HARMLESS
TO ALL METALS
Tough on Tar, Carbon

GUNK has been doing an outstanding job for the Army and Air Forces — exceeds latest Government degreasing and decarbonizing specifications. Comes ready to use with patented dunking screen in 5 gal. container — the only complete decarbonizing package outfit.



GUNK Dunk is easy to use

The dunking screen that comes with the kit

The hydro-seal—a water base blanket that forms on top like cream on milk and prevents evaporation of concentrate, rinses work

GUNK(H-S)DUNK, digests carbon, gum

How to Buy . . . Ask Your Jobber Salesman or Use Self-Service Coupon for Express Shipment

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Malden 48, Mass.

Not in stock at my jobber . . . attached to my business letterhead is my check or M.O. on the condition that you ship me by FAST PREPAID RAILWAY EXPRESS a 5 gal. size GUNK H-S Dunk-Kit at dealer's net cost — $9.90 (add 10% west of the Mississippi).

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THE CURRAN CORP.
Manufacturing Chemists
MALDEN 48, MASS.

Makers of:
GUNK-Spray, *self-emulsifying chemi-cleaner.*
GUNK-Dunk, *carbon gum digestant.*
MOTOR-FIZIK

AIR TRANSPORT

Chicago-Miami Service Nearly Doubles Mileage of Delta Air Lines

By E. H. PICKERING

Substantial addition to the routes of two major airlines has resulted from last month's decision of the Civil Aeronautics Board in the Florida-Great Lakes Case. Route mileage for Delta Air Lines was nearly doubled with extensions from Cincinnati to Chicago via Muncie, Anderson, and New Castle, and from Knoxville to Columbia via Spartanburg and Greenville, and also from Knoxville to Augusta via Spartanburg and Greenville. In addition CAB extended Delta's routes from Savannah to Miami via Brunswick and Jacksonville, paralleling, in the main, the services of National and Eastern Air Lines, and offering a second through-service from Chicago to Miami.

Eastern Air Lines, second recipient of new routes and mileage, was extended from Columbia, S. C., into Detroit, Michigan, via Charlotte, Winston-Salem, and Greensboro-High Point, Roanoke, Charleston, Akron and Cleveland. This route gives competition to Pennsylvania-Central Airlines between Akron, Cleveland and Detroit. The Board denied the application for other trunk airline service over this section of the country. However, decision was deferred on the application of several airlines for extensive local service in the Southeast.

Low Fare Boosts Passenger Traffic

Pan-American Airways has proven this summer what can be expected for air transportation as fare is reduced. Beginning on May 15, one-way fares from Horta, in the Azores, to Lisbon, Portugal, were reduced from $106.00 to $45.00. This reduction resulted in the carrying of 312 passengers within the following two months, where an average of one passenger per trip had been exceptional.

Universal 8 Pc Tool Set $14.85—10 Pc..$19.85
Wrench Set 6 Pc Boxend $7.85—Openend $ 9.85
Combination Box & Open 8 Wrench Set..$14.95
Midget ¼" or ⅜" Socket Set and Case....$19.85
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Tractor ¾" 14 Pc Socket Set and Case..$49.85
Immediate shipment; clip ad; mail check now.
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INVENTIONS WANTED

INVENTORS: We seek for our clients specialized, practical, mechanical equipment, preferably patented and tried in the aircraft field to manufacture and distribute. Royalty basis or any other mutual arrangement.

HUGH C. ROBBINS AND ASSOCIATES
Business Engineers and Aeronautical Consultants

P. O. Box 346, Troy, Ohio.

VHF Approach Control Lands 20 Planes Hourly

Developments in airport traffic control are keeping up with air transportation improvements in general. Instrument approach procedure, now in practice, and that has been in practice for the past few years, take as long as twenty minutes for each plane to make its approach and land, clearing the way for the following plane to come into the pattern. Two months ago at Washington, an experiment with the new CAA type of control, brought in five airplanes within twenty-one minutes, an average of about twelve planes an hour. In August, a similar procedure making use of very high frequency, static-free, two-way communications equipment, brought in planes at an average of twenty landings per hour. An interesting comment made by the CAA tells of still more improvements to come when the advantages of radar, heretofore solely a military implement, can be applied to civilian and commercial air traffic control.

Foreign

Pan-American Airways reports that on their 50,000 miles of Latin American routes their clippers operated at 97.4 per cent capacity during the first six months of this year, an increase of about 10 per cent over 1944. . . . The British report Douglas Aircraft Company is interested in the idea of forming a company in Brazil to convert Douglas' military aircraft into commercial transports. Considering the lower wages paid in Brazil, Douglas would be able to sell its aircraft in South America much cheaper than other U. S. companies.

Domestic

Indications of the headlong growth of air transportation is indicated in several items this month . . . Continental Air Lines, considered one of the smaller U. S. airlines, flew more than five-million revenue passenger miles during July for the first time in its history. . . . United Air Lines is now flying twenty-two daily round-trips between Chicago and San Francisco, and sixteen between Chicago and the East. . . . Major league baseball teams will be using the airlines in their travels from city-to-city as soon as transportation conditions permit. Eleven of the teams have signed volume travel-plan contracts with United Air Lines. . . . Charles A. Rheinstorm, vice president of American Airlines, predicts that in view of the reduction to four-and-a-half cents for many air fares during August, within a few years fares may approximate three cents a mile.

The irritating delay while lengthy airline tickets are being made out will soon be eliminated. Use of a new ticket form involving carbon and carbon copies will greatly speed up both the making out of the ticket and resulting savings in time for ticket offices and accounting departments of the airlines. . . . Lt. Colonel John H. Clemson has returned to TWA as general manager of the mid-west region of that airline. He was chief of the domestic division, priorities and traffic, of the Army Air Transport Command, and developed and directed the administration of the domestic priority system. . . . National Skyway Freight Corporation has started non-scheduled contract air freight service coast-to-coast using Budd stainless steel freight plane, developed for the Navy. It is expected that perishables, such as vegetables and fruit, will make up the bulk of the east-bound shipment. Several personnel of the company, including Robert W. Prescott, president, were former members of Chennault's "Flying Tigers." . . . Essair, Inc., began passenger service on August 27 between Houston and Amarillo, Texas. Essair has already filed for additional routes which would take it into New Orleans from Houston.

Braniff on September 20 will inaugurate service over its extension from Oklahoma City to Memphis via Tulsa, Muskogee, Ft. Smith and Little Rock. . . . Capt. Dan Hughes, Jr., with the company for ten years, has succeeded Capt. N. A. Lorenzano, who resigned the post to resume active flying, as assistant chief pilot of Braniff Airways. Braniff has appointed John T. Plunket, recently resigned from government service in Latin America, as assistant to the president of Aerovias Braniff, with headquarters in Mexico City. . . . New officers and directors elected by the Feeder Airlines Association are Bowman R. Otto, Newark, N. J., president; Oliver L. Parks, St. Louis, vice president; Thomas H. Davis, Winston-Salem, secretary-treasurer; and directors Harry R. Stringer, Wilmington, N. J.; Ray Hylan, Rochester, N. Y.; R. E. McKaughan, Houston; James G. Ray, Beverly Hills, Calif.; E. R. Scroggie, San Diego; Philip C. Wagner, East St. Louis; and H. S. White, Dos Palos, Calif.

Thirty-six former AAF pilots have been accepted by PCA as copilots. . . . National Skyway Freight Corporation, of Long Beach, Calif., which operates seven Budd Conestogas on contract, non-scheduled operations, flew two loads of packaged vegetables from California to Detroit and Atlanta last month. . . . Stanley Switlik, the parachute manufacturer, says use of an economical cargo 'chute his firm has developed will make possible the delivery of air parcels to every town and hamlet along the nation's air routes, independent of stopping and airport facilities. . . . Joseph E. Casey, Boston attorney and former member of Congress from Massachusetts, has been named chairman of the Airlines Committee for U. S. Air Policy, succeeding Alexander B. Royce, recently retired.

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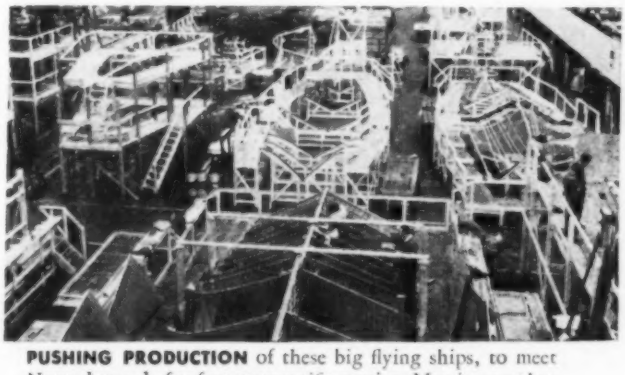
WHY THE *Martin Mars* IS TOPS AMONG TRANSPORTS!

SKY GIANT! Martin Mars has carried useful loads of over 35,000 lbs. . . . flew 4,227 miles non-stop with 13,000 lbs. of cargo . . . operates at 15c per ton-mile. Her new sister-ships will operate at less than 10c.

BIG BOW of a JRM Mars gives idea of their vast size. Great 120-foot hulls contain 32 ports, 17 hatches, including the 8 by 7½ ft. cargo doors. Wing spread exceeds 200 ft.

WHY is the Martin Mars America's No. 1 transport plane? Let's look at the record! In her first 15 months of service the Mars carried 3,000,000 lbs. of cargo, nearly 2500 passengers, flew the equivalent of 10 times around the earth at the equator. During one month alone, she made 20 trips between Pearl Harbor and California for a utilization of 9.4 hours per day.



PUSHING PRODUCTION of these big flying ships, to meet Navy demands for fast transpacific service, Martin now has 70 manufacturers in 12 states turning out JRM sub-assemblies.

LUXURIOUS LOUNGE of postwar Mars. No cramped seats or narrow aisles here! Passengers will stroll about, visit bar, enjoy hot meals, sleep in private compartments.

NEW MARS TRANSPORTS

On the basis of this outstanding performance, the Naval Air Transport Service ordered a fleet of these highly efficient cargo carriers. Bigger, faster than the original Mars, these new transports will rush supplies to Pacific outposts at a rate of approximately 3000 ton-miles per hour . . . will operate at less than 10c per ton-mile . . . will be quickly convertible from cargo carriers to hospital ships accomodating 84 litter cases and 25 attendants or to transports seating 132 passengers. These huge 82-ton flying ships will soon be entering service.

COMMERCIAL VERSIONS

Commercial versions of the new Mars, offering great freight facilities and unsurpassed luxury to tomorrow's transocean travelers, are ready to build as soon as war conditions permit. With Martin plants tooled for and in quantity production of Mars flying ships, delivery of commercial models will be prompt.

THE GLENN L. MARTIN CO., BALTIMORE 3, MD.
THE GLENN L. MARTIN-NEBRASKA CO., OMAHA

Martin
AIRCRAFT

Builders of Dependable Aircraft Since 1909

IN PEACE AS IN WAR U. S. aircraft companies will strengthen foreign air forces. Reminiscent of 1939-40 when foreign orders prevented shutdown of some U. S. factories, this picture shows a French mission visiting Glenn L. Martin last month on a tour of U. S. to obtain assistance in rebuilding France's military and civil air industry. Left to right are General Henri H. Zeigler, Mr. Martin, Col. Constantin Rozanoff, Lt. Col. B. R. de Vazeille and Major Andre Esperet.

First Region Shakeup Marks Progress in Special Probe of CAA

The first of several CAA resignations and new assignments occurred last month following airing of criticism and charges growing out of findings by Administrator T. P. Wright on a tour of field organizations. Oren P. Harwood resigned as First Region Administrator and was succeeded by W. E. Kline, Fifth Region Administrator who became Acting First Region Administrator. Gilbert B. Smith, who resigned as Acting Superintendent of Safety Regulation in the First Region, was replaced by Lt. Col. Ora W. Young, soon to leave the Army and former Third Region Superintendent of Safety Regulation. Lt. Col. Leonard Jurden, former Fifth Region Administrator, will resume his duties there upon leaving the Army.

Improper issuance of airmen's certificates, discrimination in enforcement, written examination irregularities, and "acceptance of gratuities" were among complaints aired by Administrator Wright before Secretary of Commerce Wallace and Assistant Secretary of Commerce for Air Burden, who appointed a three-man Department of Commerce committee to investigate the accusations. Names of CAA officials involved were withheld pending replies to the charges.

New Limitations of Non-scheduled Carriers Asked by Examiners

Presaging early adoption of a proposed new Part 42 of the Civil Air Regulations covering non-scheduled carriers, Civil Aeronautics Board Examiners William J. Madden and Curtis C. Henderson last month recommended (1) complete registration of "fixed-base air carriers," (2) limitation of fixed-base trips for hire paralleling certificated routes to ten per month, (3) limitation of trips for hire to trips originating at carrier's principal place of business and to trips originating at other points but destined to carrier's principal place of business, and (4) filing with CAB of periodic operations reports. The examiners' report, culminating an investigation instituted last year, will be followed by distribution for comment of a preliminary of the proposed new Part 42 of CAR covering fixed-base air carriers. Public hearings will be conducted before final adoption.

AAF Gadget Makes Automatic Landing Approach

Signal officials at the AAF Air Technical Service Command in Europe have disclosed the development of an electric "brain" which synchronizes automatic pilots and instrument landing systems and will make it possible for Army Air Force pilots to bring their planes to within a foot of the runway without touching the controls.

The "brain," housed in a telephone-box-size container, guides the plane both vertically and laterally, changing its mind as often as necessary to make adjustments for wind currents and air pockets. It is the outcome of years of research in physics and electrodynamics by scientists in the U. S. Experiments which led to the final perfection of the device were carried out at Air Technical Service Command headquarters in Europe.

Warner Leaves CAB To Head PICAO

Dr. Edward Warner resigned from the Civil Aeronautics Board last month to accept the presidency of the interim council of the Provisional International Civil Aviation Organization, and among those being discussed to succeed him are Deputy CAA Administrator Charles I. Stanton and Grover Loening, dean of U. S. aeronautical engineers. Dr. Warner was the only CAB member with an engineering background.

Eastern Restrictions Lifted for Private Flying

Many wartime restrictions imposed on private flying on the East Coast have been lifted by the Interdepartment Air Traffic Control Board. Under relaxed regulations, however, owners of aircraft should avoid all Navy and Army stations, flight training areas and offshore areas which are highly congested with military flight training including aerial gunnery and other activities dangerous to civil flying. A large volume of essential military flying will continue in many East Cost areas.

Surplus Combat Planes Available as Memorials

The Army Air Forces have made $32,697,610 worth of obsolete and surplus precision instruments, engines and complete airplanes available to schools throughout the country between October 1, 1944, and June, 1945. Now communities may acquire surplus bombers and fighters as memorials. Surplus aeronautical property may be used by State and local governments for the memorials, as well as for educational, research and experimental purposes, according to the Surplus Property Board.

Price Ceilings for Aircraft Tires, Tubes

Retail dollar-and-cent prices for new aircraft tires and tubes have been announced by the Office of Price Administration. The maximum retail and wholesale prices are to be about 6 per cent less than the ceiling prices previously in effect. Retailers are to be allowed nearly the same percentage mark-up under the new dollar-and-cent prices. Wholesale sellers, other than manufacturers and brand owners, will figure their maximum prices by deducting 24 per cent for new aircraft tires and 25-5 per cent for tubes, from the dollar-and-cent maximum retail prices. Manufacturers and brand owners will use their January, 1945, percentage discounts for new aircraft tires and tubes.

Women Fliers Gathered by Texas Ninety-Nines

The Texas chapter of the Ninety-Nines is to sponsor a meeting at Fort Worth on September 15 for all licensed women fliers to map plans for activities during the coming year. Mrs. Nancy Harkness Love, deputy director of the WASP's, and Mrs. Jimmie Doolittle are among invited speakers. Mrs. Abbie D. Haddaway of Fort Worth, Ninety-Nines leader, said the organization's annual meeting and election of officers will follow the open meeting. Results of a survey of postwar job opportunities for women fliers will be discussed at the meeting, to be held at the Texas hotel.

Super Fuel for Higher Performance

Immediate production of a new aviation gasoline of a higher grade than the standard 100-octane rating has been ordered. The new fuel will provide an increase in engine performance, greater speed, longer range, and higher load factor. Existing engines, with adjustments, will benefit from the fuel, but the greatest improvement in performance will be obtained in the types of planes with engines especially designed for the new fuel.

Seabee Distributors Ready in 35 States; 3,500 Planes Ordered

Nearly two-thirds of the United States is included in thirty-five areas for which distributors for Republic Aviation Corporation's personal amphibian Seabee have been signed up.

Growing interest in the Seabee, now that P-47 mass production is no longer needed, is evidenced by the distributor-dealer organization. Recently announced distributors include Everett H. Welch, of Hinck Flying Service, Monticello, Minn., and John H. Livingston, of Livingston Airways, Waterloo, Iowa.

Republic has received about 3,500 tentative orders for Seabees, subject to delivery beginning next Spring or sooner. The plane is expected to sell for less than $4,000.

What! No shower?

"Damnation!" snorted Mr. Smith. He sat down irritably on the edge of the built-in bathtub and glared gloomily about the cabin of the postwar plane.

"But look, Mr. Smith," soothed the bright young salesman, "this Airborne Chateau Model doesn't need a shower. Just see here: built-in bar . . . two-way radiophone with video screen . . . complete kitchen and bath facilities . . ."

"Except for shower!" broke in Mr. Smith. "Listen, young man. I don't care if this plane *will* sit down on my badminton court, or carry the whole family non-stop to Nassau. I still want a shower!"

"But Mr. Smith," placated the salesman, "we can't have everything, you know."*

*That's right, Mr. Smith, you can't have everything. The beautiful, beautiful postwar plane you've set your heart on is still a long way off. For a year or two, after the war, there's bound to be a shortage of miracles. For example, the first postwar WACO you see won't be essentially different from the prewar WACO you owned or envied. But don't be discouraged . . . postwar or prewar, WACO means comfort and stability . . . speed and safety for all-weather flying. WACO means *better* planes . . . for *better* flying! THE WACO AIRCRAFT COMPANY, 99 Peters Avenue, Troy, Ohio, U. S. A.

ALL ARMY CARGO-TRANSPORT GLIDERS ARE WACO DESIGNED

WACO AIRPLANES

Waco

Civil Air Patrol

OPERATIONS IN BURMA BATTLE AREAS were detailed to Civil Air Patrol volunteers before they went overseas a month ago. Here's Major George Wilson, commander of the First Air Ambulance Squadron of the American Field Service, lecturing to some of the pilots.

No Curtailment in CAP Program Expected

End of the war against Japan means a strengthening of the Civil Air Patrol program, not curtailment. So declared national headquarters in a statement following the Japanese capitulation. CAP's official assignments for the Army Air Forces are the Cadet program, described by General Arnold as a "long range necessity," and missing aircraft search, which is as important during peacetime as in war. America's only preflight reserve source, the CAP Cadet program will be maintained against the time when the AAF tends to become overage unless new air cadets are available as replacements.

CAP Cadets are to be organized under a self-government plan based on the AAF's military honor code. They will now have their own Cadet officers, with squadron CAP leaders holding the grade of Cadet Captain. Cadet First and Second Lieutenants will be selected on a merit basis. Heretofore the highest Cadet rank was that of First Sergeant.

Air Power League Organizing Local Units

Air power clubs are being organized in a number of communities, seeking development of airparks, airports and other flying activity. The clubs are being organized in the Air Power League's plan to assist employment in civil life of aviation veterans of the armed forces. League members are now assisting veterans in finding employment informally through business contacts in their communities.

CAP Membership Center Opened at Columbus

A new membership office has been set up to handle all senior membership applications and files for CAP at the Armory building, Ohio State University, Columbus, Ohio. Clerical help is furnished by the Air Power League. Applications for membership are to be sent through Wing channels to the new address.

11,458 Cadets in Camp

Approximately 11,458 CAP Cadets went to camp at fifty-nine AAF installations this summer. Last summer, 7,400 Cadets attended camp at forty-eight Army air fields. The Cadets, selected on merit basis, lived Army lives, observed all activities on the field they visited. An adult CAP member was assigned to every twenty-five Cadets to supervise them while at camp. Special encampments were held for girl Cadets, since AAF facilities were not available for them.

FIVE FLIGHTS WEEKLY FOR WAR INDUSTRIES have been operated from the Pennsylvania Wing's 6th Group Courier Station at Allegheny County airport. Typifying the missions, this CAP pilot is accepting a package of vital parts from a Pittsburgh industrialist for rush delivery by air.

Directives for PT-17's Being Distributed

A series of eight regulations is being issued, covering all details of operations, safety, supply and maintenance of AAF aircraft assigned to CAP. The L-type airplanes previously assigned are being replaced by 300 PT-17's. These planes, grounded for policy and procedure decisions, are expected to be able to fly in the near future. One of the principal uses is on the short orientation rides, with no flight instruction, giving CAP Cadets the feel of flying.

New Insignia Being Prepared for CAP

Several new designs for CAP and CAP Cadet insignia are being adopted with the cooperation of the Quartermaster General's heraldic division.

The CAP pilot wings with a star will be awarded to those who qualify as Pilot Officers and wings with star and wreath for Master Pilot Officers. Observer wings with star have been designed for Observer Officers.

CAP service ribbons are to be replaced by new ribbons of an improved design. For the three grades of merit citations, awarded by

National Headquarters for unusually outstanding services or acts of heroism, ribbons have been designed to replace the triangular emblems now authorized.

Cadet insignia of officer or non-commissioned grades will be similar to the service and specialist emblems now prescribed—woven devices with gold thread on a black background. Three cadet merit ribbons have been designed, for the primary and advanced phases of CAP cadet training and for special merit.

SUMMER CAMP FINANCING by the Nebraska Elks' Lodge provided new uniforms for 200 CAP Cadets trained at Kearney Army Air Field. Left to right above are Omaha Squadron I Commander Capt. Leonard J. Heinsen; Omaha Cadet Commander Charles Martin, and Chairman J. C. Travis of the Elks' War Committee.

BOOK REVIEWS

Women in Aviation, *by Betty Peckham, published by Thomas Nelson and Sons, 385 Madison Ave., New York 17, N. Y.*

Written by the author of "Sky Hostess", this book gives a comprehensive picture of the opportunities in aviation for women. The first part deals with the women in the military services—the Wasps, Wacs, Waves, Spars, Marines, the Flying Nurses, and the girls with the Civil Air Patrol. In the second part, Miss Peckham tells about the splendid work done by the women on the assembly line, and of the jobs in aircraft manufacture not on the production line.

The Standard Guide to Private Planes, *by Lester Ott, published by Aeronautics Publishing Associates, 501 Fifth Ave., New York 17, N. Y., price* $2.00.

This annual, the only one of its kind produced in the United States, contains a wide variety of material of interest to airmen. Included in the book in addition to the section on personal aircraft for 1946 and 1947, are revisions in the governmental regulations, the most up-to-date engineering developments, changes in personal and aircraft insurance provisions, a table on the trade-in value expectable in used planes, and many other features. 130 pages, paper cover.

Private Pilot Examination, *by Charles A. Zweng, published by Pan American Navigation Service, 12021 Ventura Blvd., No. Hollywood, Calif., price* $1.00.

This thirty-four-page book includes material valuable to all airmen, whether certificated or uncertificated. Among the subjects covered are New Civil Air Regulations Air Traffic Rules, General Operation Rules, Typical "Multiple Choice" Examinations, Examination-Pilot Certificates, and Student Pilot Certificates. Information is presented in the form of questions and answers.

Airline Pilot Log, *published by Pan American Navigation Service, 12021 Ventura Blvd., No. Hollywood, Calif., price* $2.00.

In addition to its record pages, this log book contains pages covering: Use of the Airspeed Correction Table, Instructions for Use of Off Course Correction Table, Explanation and Use of Drift Angle Graph, Radius of Action, and Semi-Annual Summary. It is especially designed for the use of the Airline Pilot.

NEW LITERATURE

Pratt & Whitney, *Division Niles-Bement-Pond Company, West Hartford 1, Conn.,* has announced the release of its new Condensed Catalog showing for the first time under one cover the complete list of its products—seventy-two pages of condensed information, illustrations and specifications. Among the products covered are machine tools, Keller Machines, Kellerflex and small tools.

George Scherr Co., Inc., 200 *Lafayette St., New York 12, N. Y.,* has released literature describing the Scherr Magni-Ray. Available on request.

Aero Tool Company, *Burbank, California,* has published an illustrated folder entitled "Special Purpose Tools for Aircraft," describing its new co-operative tool service. Inquiries invited.

Ampco Metal, Inc., 1745 S. 38*th St., Milwaukee 4, Wis.,* has released Bulletin 64A, describing and illustrating its extruded bronze bars, tubes and shapes of certain grades of Ampco Metal, Ampcoloy bronze alloys and Ampco rolled sheet. Free on request.

Gas Welding of Magnesium Described

Magnesium division of the Dow Chemical Company has issued a technical memorandum No. 10 on "Emergency Repair of Magnesium Parts by Gas Welding." The memorandum contains information as to the materials and equipment, magnesium alloy welding rod, operator's equipment, field repair of magnesium castings, welding of castings to wrought parts and cleaning and painting.

Booklet Outlines New Industries Safety Drive

A program designed to help industry meet the threat of an increased accident toll is contained in a pamphlet, "Industrial Safety Tomorrow," which can be obtained without cost from the National Safety Council, Chicago 6, Illinois.

NEW DEAD RECKONING EQUIPMENT
For Land, Sea and Air

Flight Instructor by CHARLES A. ZWENG
Author of "Radio & Instrument Flying," Etc.

This important new book will prove invaluable to the Instructor as well as to his student. All maneuvers are fully covered and illustrated. The new "series of eights" and "series of turns" are shown. New features include, "Flight Examiners," and "Methods of Grading." Other new sections cover the new typical "multiple choice" examinations given for "flight instructor rating." Handsomely bound in Blue Leatherette with gold letters. Price $4.00, postpaid or C. O. D.

PRIVATE PILOT EXAMINATION: (New July 1, 1945) by Zweng. First in the field. "Multiple Choice Examinations" covering scope of written test. Only $1.00 postpaid.

MANUAL OF THE E-6B COMPUTER (New) by Allan C. Zweng. An essential text for every airman and Instructor. De Luxe Edition, $2.00.

NEW DALTON NAVIGATION COMPUTER (Type E-6B), $10.00.

AERONAUTICAL TRAINING by Zweng. (Important Notice) The New Private Pilot Examinations pertinent to Revised CAR Effective July 1, 1945, to include Parts 60 and 43 are now covered, with "typical new Multiple Choice Examinations" for both Private and Commercial included. $3.00 postpaid or C. O. D.

AIRCRAFT and ENGINE MECHANICS: Examinations, New (Zweng) Quiz Book now covers typical Multiple Choice examinations fully illustrated with necessary diagrams. Used by Lockheed, Douglas, Northrop, Ryan and outstanding schools. Why fail? Only $3.00 for both examinations, and CAR.

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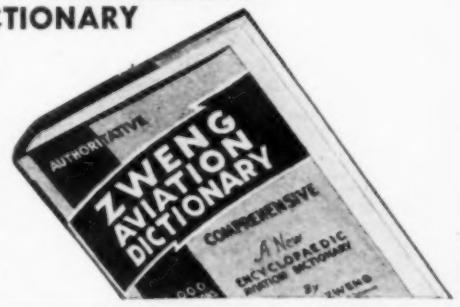

PAN-AMERICAN NAVIGATION SERVICE, Dept. SF
12021 Ventura Boulevard
NORTH HOLLYWOOD, CALIFORNIA

By TONY HAGMANN

Los Angeles, Calif.—They have just about put back the fuse which blew out on V-J day with a roar big enough to fill West Texas, almost. Los Angeles took it like a cowhand with a year's pay in his jeans, a redheaded gal and the stock show in Ft. Worth all wrapped up in one package. V day was a definite success but we hope there is never a need for another. It is too hard to find ice cubes.

Between two signs reading "Biltmore Hotel" and "Jesus Saves" you can find Airline Row. Many people have just checked in these nice ticket selling offices to wait for passage and they report the chairs good sleeping, but complain about the draft. Everytime someone comes in the door a breeze comes in and no matter what they tell you, California breezes come from the North Pole. Some one suggested the airlines put in revolving doors and all they got was passage to Phoenix. But quick.

We stopped in TWA's office and met Irv Greenwald. He's been with them since 1929. Irv said that non-priority passenger service was a very tender subject with all the airlines right now; in fact he'd just as soon we skip it until the answer was worked out. Then he told us of a luncheon he'd had with Messrs. Plesman and Veenendahl of Amsterdam, Holland. They are president and vice president of KLM, and came over here to exchange ideas on domestic airlines. Irv said they were very interested in all parts of the airline business and even the smallest details were good for conversation. Next was a cinch. TWA will get right along with building up service to even better than prewar standards. And they get some mighty pert passengers, like Marlene Dietrich, who caught the Stratoliner, Paris bound, the other day. Irv introduced us to Rosalie Murzyn and Kathleen Newberry who "know an E05 from a B-17 and that is very good." We are afraid to ask what an E05 is, but suspect it is something like a gold star at Sunday School. We checked out of TWA with Dorothy Quenell who is in charge of answering questions like ours and we decided TWA was a nice outfit and we'd be happy to take one of their oceanic trips.

American Airlines runs in and out of Texas like the company who hired a rabbit for a traveling salesman. Lots of business and many hops. So we floated over to see Larry Dirks who is in charge of public information at American. He invited us to go to the Queen-for-a-Day program with which the airline is going to do a little business. The gal who wins will get an airline ride to Tucson and back. While in Tucson she will get the town's best. And we talked of this and that. Larry is a very cagey guy and was "not sure if or when we'll give out the little overnight bags again, but probably" to our question. Those little blue bags are as cherished as a furnished apartment and just as hard to find.

Barbara Stevenson gave us her news flash sheet which they send to AA folks in the service and we noticed you will be able to fly to a dozen foreign countries via American. This ain't news now but it sure is nice to think about. Especially when you know they will give out some other kind of traveling bag to the passengers and we think this is one of the nicest things about airlines. You pay for your ticket to get where you're going and they give you all sorts of things, like nice service, pretty gals to look at, maps and folders, Hull-Dobbs food, and chewing gum, and traveling bags.

Latest news around here is the exodus to home. Everybody is packing, selling their homes or moving out of furnished apartments and going back to Texas, Oklahoma or Louisiana. We will miss Barbara and Freddy Dick so much it hurts. He was with Lockheed, test pilot, and she the best cook in forty-eight states. And pretty, too. They are going to

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TWO FAIRCHILDS, 24-H. Ranger, NC 16872, 173 hrs. since major overhaul, with extra newly majored engine, two-way radio. NC 15608, 178 hrs. since major overhaul, no time since top, with extra newly majored engine, two-way radio. Will accept Aeronca Chiefs in trade.

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Shreveport and if you fly in stop and see them; more fun than you'll find any place.

Bye now. . . .

Dallas, Texas—*by Sandal Dailey.* Sailplane activity has been launched in a big way at Hudson Airport and interest in soaring is growing at a fast pace.

E. J. Reeves, president of the newly organized Dallas Soaring Society, believes that there is no better way to stimulate interest in flying among pilots of all ages than by taking them for a flight in the motorless planes. He and J. W. Simmons, Jr., expect to receive their commercial glider certificates soon.

Well-known local pilots and glider enthusiasts are listed as officers of the society: Vice presidents are Simmons, B. K. Dosterschill, Jr., and Jon Carsey, local architect who designs sailplanes on the side. George Thompson is secretary, Jack Edwards in charge of public relations, and C. E. Dobkins, radio engineer with radio station KRLD, is treasurer. Dobkins is an old hand with the art of soaring having built gliders as a hobby when he lived in Gainesville. M. W. Gilliland is meteorologist for the group.

Plans of the new society are ambitious, but plausible. Already the group owns two Schweizer TG2A's, purchased from the Defense Plant Corporation, and a tow plane, a Stearman PT-17. One or two more high performance sailplanes will be acquired when needed, said Reeves.

The Dallas Soaring Society has excellent advice. Wallace Weiberg of Fort Worth, aeronautical engineer with Johnson Aircraft, makes frequent trips to Hudson to consult with the sailplane enthusiasts. He maintains that he prefers motorless flying to any other type.

From Dallas Aviation School, which encourages the society to use the facilities of Hudson Airport, the soarers receive full cooperation through the assistance of Chief Instructor C. N. Mood, now a CAA designated inspector.

For its ground crew members, the society calls on cadets of Dallas CAP Squadron 1, and Sunday afternoons a half dozen or more boys of high school age are to be found at Hudson Airport, eager for the opportunity to run wings and pick up tow ropes—and also to beg a ride now and then.

Reeves takes the view that it may be possible to soar on good days the year around in Texas. "We don't know about this for certain, but the records of European soaring, particularly in certain sections of Russia, indicate we will have the opportunity to soar the year around."

Members of the society expect to affiliate with the National Soaring Society as official observers, so that if any soaring records are broken they will be duly recorded.

The Dallas Exchange Club this year will branch out in its model airplane activities beyond local contests and is to sponsor the Southwest Control Line Aeromodel Championships here on September 16. P. J. Crandell, exchange club service to aviation director, claims that there will be hot competition between Dallas models and those of other cities, since the Dallas planes have taken most of the prize awards at meets in this part of the country.

John E. Clemens, a director of the Academy of Model Aeronautics, will serve as contest director.

A sideline feature of the meet will be the judging of all types of model planes on the basis of workmanship and appearance.

Lyn Bond of Floyd West & Co., of Dallas, aviation insurance agents, has bought a Fairchild 24 for company business covering the state of Texas. He recently returned from active duty with the Air Transport Command, in which he was a captain.

Birmingham, Ala.—*by Edith Wideman.* Flying ambulance service for civilians will soon be inaugurated here when Brown Service Funeral homes receives a Beechcraft Model 18-S. The order was placed with Southern Airways by Rufus Lackey, president of Brown Service. Patients will be flown into Birmingham or carried out to any point in the United States for approximately twenty-five to thirty cents per mile. Mr. Lackey said the cost is less than travel by ambulance on the ground.

Aero Clubbers were guests of the Army Air Base Officers Club luncheon on AAF Day and enjoyed the exhibits from field medical service to aerial photography. Most of all the Army aircraft exhibit held the interest for the afternoon. Aero Club luncheon programs have been enjoyed to the utmost, thanks to the Army. Colonel Geoffrey Marshall of Huntsville Arsenal gave an enlightening talk on "Chemical Warfare in the Air," and Colonel D. W. Goodrich, new commanding officer at the air base, was guest speaker at the last meeting.

Eastern, Delta and PCA have added schedules so rapidly of late that we haven't been

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SOUTHWEST . . . SERVING AVIATION SINCE 1925 IN THE . . . SOUTHWEST

STINSON AIRPLANE DEALERS OF TEXAS are shown attending Aircraft Sales Company's state-wide meeting in Fort Worth last month. Left to right are Charles Akey, Amarillo; Jack Gray, Denton; Jim Ferguson, Harlingen; Henry Ayres, Paris; Jess Faulkner, Paris; M. H. Thomason, Wichita Falls; Cliff Hyde, Houston; MacDonald Lynch, Houston; Wallace Anderson, Pecos; Shelby Kritser, Amarillo; Harvey Pennell, Houston; Les H. Bowman, Fort Worth; Jack Hughes, Abilene; Jack Gabbert, Dallas; Elmo Penn, Kilgore; Mrs. Harold Volk, Dallas; Mrs. Rod More, Corpus Christi; Eules Parker, Dallas; G. K. Roberts, Kilgore; Harold Volk, Dallas; Bob Swackhammer, Wayne, Mich.; and C. W. Freitage, Wayne, Michigan.

able to keep up. But congratulations to Eastern and Delta on the new routes—those arising out of the Florida-Great Lakes hearing.

Representatives from Piper Aircraft recently called at several of Southern Airways operations while making a tour of the Southeast. They were Jake Miller, assistant sales manager, and John Baker, district sales manager. They were flying the Piper PT-1, prototype of the postwar family plane, the Sky Sedan. They recently completed a 6,000-mile trip and averaged 140.5 mph. with gas consumption being twenty-four miles to the gallon. Looks like Piper is getting close to the postwar dream of speed, efficiency, safety and economy in family aircraft.

Shortly after all this happened world events began to whirl past our blood-shot orbs so fast we are still overcome and unable to completely reconvert — the Russian entry, the atomic bomb and then the surrender. We happened to be at the airport when the long suspense was broken with the official announcement. The last we remember there was a passenger, the female of the species, bound for LKW (Lawd Knows Where) wearing an Army officer's blouse—said Army officer, the owner of the blouse, being bound for LKWin-OD (Lawd Knows Where in the Other Direction) and a sailor boarding the third plane with a civilian hat adorning his pretty little cranium. Oh, well who wants to remember anyhow—It's wunnerful, ain't it?

Blackwell, Oklahoma — More than a hundred and fifty key men from twelve Southwestern States attended a Taylorcraft distributor's and dealers meeting August 1, in sixty-eight airplanes which were hangared at Dewey Mauk's airport. Major Reece McGee and members of the Blackwell Chamber of Commerce received loud praises for their thoughtfulness in specifying that badges worn by delegates entitled the wearer to imbibe freely of soft drinks at any drug store and also served as admission to any theatre in the city. W. M. McDonald, vice president, Aircraft Investment Corp., Fort Worth, outlined plans for airplane financing, as did L. C. Wright, president of the Security Bank, Blackwell. Bill Montee and Jim Jarvis of Wichita, Kansas, were on hand to explain some of the intricacies of postwar aviation insurance, while Al Young, Civil Aeronautics Authority, discussed the CAA and its relation to postwar aviation in general. "Dusting for Profit" was a subject of much interest to Southwestern distributors. Norman Kramer of Alamosa, Colorado, and R. J. Goss of Fliteways, Inc., Milwaukee, Wisconsin, led this discussion. R. M. Tinney of Continental Motors was on hand to point out some facts pertaining to postwar aircraft engines. Jerry Andrews, vice president, Interstate Credit Corp., Minneapolis, delivered the banquet speech on "Airplanes for John Q. Public."

Eighteen distributors who were lucky enough to arrive early Friday were entertained by Dewey Mauk with a good ole S'uthern style chicken dinner.

Kansas City, Mo.—*by Marion Melcher.* Those of us who know him are mighty proud of the record made by Brig. Gen. L. G. Fritz, who last month piloted a C-69 from New York to Paris in fourteen hours and twelve minutes to set a new record for an ATC plane. General Fritz is commander of the North Atlantic Wing of the ATC. Going back a bit into history . . . remember how it took Lindbergh a little in excess of thirty-three hours to make a similar crossing? And remember what a celebration it was all over the country?

F. L. Schlagle, superintendent of schools in Kansas City, Kansas, is also president of the National Education Association, and in a statement made recently he admitted that "aviation is a dominant force and teaching methods must be geared to it." Drastic changes are slated for the school system, and even the kindergarten youngsters will be cutting out paper models of planes now that aviation progress has turned the school curriculum topsy turvy. Geography, indeed, is "up in the air" these days!

A World War I army pilot, Robert R. Lester, was named acting chairman of the mayor's aviation advisory board following the resignation of O. E. Crossey, who moved to California. (It's apparent he paid not the least attention to Tony Hagmann's mention of "pup tents . . . and sand fleas.")

Eat at the airport and reap — profits, says our city treasurer. According to a recent report made by Bill Brown, commissioner of airports, the city is entering another year of profits, thanks to landing fees, restaurant revenue and other income.

"Is you is or is you ain't V-J Day" was almost the jittery theme song around here on August 14. When the whistles blew a little after six, this city like its sisters all over the country—threw its hat into the air and shouted "hurrah!" You may recall that was the night, too, when Mid-Continent Airlines was giving a celebration dinner honoring the linking of New Orleans and K. C. via scheduled flights. Now the affair was stag so I shouldn't be knowing, but I did hear that the V-J Day news was enough to make the celebration more impromptu than planned, and even President Bill Miller (MCA) didn't get around to giving his prepared speech!

Did you celebrate National Aviation Day down your way on August 19? Noticed in the

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...per that they were celebrating in Moscow, ...whether by coincidence or aforethought ...not be saying. The Kansas City Unit of ...WNAA and the Junior Chamber of Com...erce sponsored an Aviation Day poster con...st. Prizes were given to both amateur and ...ofessional winners, with the main prize of ...0 War Bonds donated by the senior Cham...er of Commerce and the Advertising and ...les Club. The sponsoring organizations both ...nated $25 War Bonds as second prizes. In ...ddition to the window displays heralding the ...ay, *Skylady*, the national magazine of the ...Women's National Aeronautical Association, ...sponsored an aeronautical display at the main ...ibrary building in this city. And one mem...er of the Unit, Miss Willi Williamson, ...brought Aviation Day to her small community of Lee's Summit—a couple of wings away from K. C.—by holding a model airplane contest. Sixteen planes competed, both flying and shelf models. Fighters and bombers predominated, but for my money the intricate replica of the Kittyhawk would have topped the list.

Stillwater, Oklahoma—*by Vida Foster.* More than 200 farmers and farm women flew in to attend the Oklahoma Flying Farmers annual meeting in connection with Farm and Home Week August 2-3 at A. & M. College, where a two-day short course and display of light aircraft postwar models were interesting highlights.

Al Guthrie divided his time between his airport, where 250 planes of farmers and aviation industry people kept the flight strip and service facilities operating at top speed, and acting as moderator for discussions in the Administration building. Mable Guthrie and her group of WNAA girls passed out those cold cokes at the airport and served tea at the campus, all of which helped to dispense with the heat and dust and gave us a mighty good impression of Stillwater right at the start.

Henry Bomhoff, president of the Flying Farmers, and his gunner didn't bring back the coyote they shot while on the sunrise coyote hunt, but radio, newspaper and magazine people were on hand to get the story, just in case. Bomhoff did, however, keep us amused with his story of how he built and flew his first "crate with Model-A engine." Mrs. Tod Davis of Minco enthusiastically discussed forthcoming plans of the Flying Farmers in spite of having been re-elected secretary of the organi-

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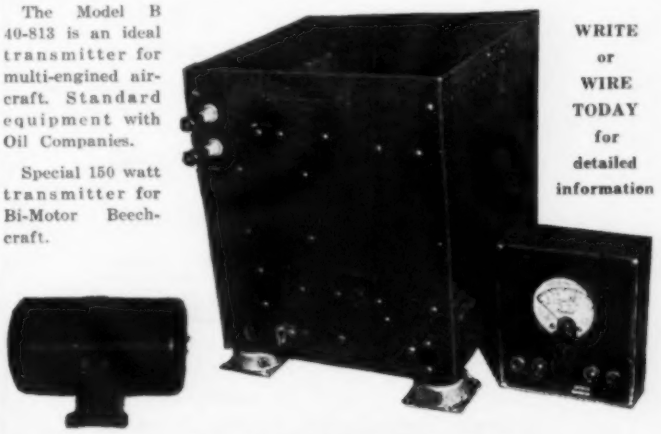

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zation for the second consecutive year. Nettie Sponhaltz, who used to contribute to "Ports of Call," and Jane Gowdy took pictures and notes on all sessions.

Al Bennett, Aeronca sales manager, enjoyed having his picture made with a flying calf, while Joe Geuting, Aviation Industries of America, addressed the business session of the Flying Farmers. Lt. Governor Berry and Jimmie Kolp helped make our trip very pleasant, and Bill Piper thinks people should be educated to accept airplanes as the cheapest means of transportation, and stressed the need for more landing strips and air parks in every community. Jimmie Marshall of Beaumont and Fulcher Armstrong of Wichita Falls "just dropped in to say 'hello'" because they heard there was a meeting of aviation people. Johnny Burk and Moss Patterson of Oklahoma City talked business with Al Guthrie and Dewey Mauk, and Ray Goss arranged a spectacular aerial dusting demonstration. CAA was represented by Ed Travis and W. O. Korpenko of Fort Worth and E. J. Robbins of Washington, D. C. Bill Fuller and Ted Yarbrough of Fort Worth listened proudly to comments on their Globe "Swift" as Bob Kenty of Air Associates and Alma Daigle looked on. Troy Baker was in a hurry to turn in his notes for his "News & Views of Aviation" radio program. H. C. Funk and N. C. Howard of Coffeyville, Kansas, tried to avoid the sun's rays by sitting under the wing of their "Funk" and discussing expansion plans. The two Bobs of Aeronca, Davidson and McCormack, think the Southwest is a wonderful market for their product. Arthur I. Boreman, vice president of NAA, led the open forum discussion on adapting aircraft for farm use, and we saw Mr. Dulick, with Stearman Aviation; W. M. McDonald, Aircraft Investment, Ft. Worth; Charlie Gale of New York, and Gene McGill, Alva, Okla., Flying Farmer, attending the session. Stillwater youngsters got a "close-up" of the dozen planes on display on the campus as they kept the dust wiped off and were taken for short "hops" by grateful factory representatives.

Henry G. Bennett, president of Oklahoma A. & M., and Herb Graham, extension editor, deserve congratulations for the arrangement and smooth running of a well-rounded program which was attended by more than 2,000 people interested in the future of aviation in the farming industry.

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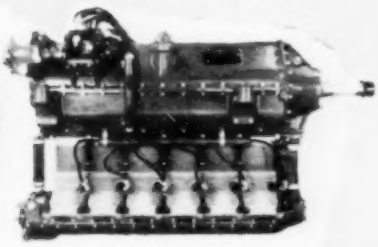

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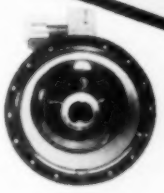

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